# American Gas Association MONTHLY

Whither Are Americans Going?

•

Nutritious Workers' Lunches

•

The Association's War Stride

•

War Risk Insurance Practices

•

Gas Aids Canada's War Effort

May 1942

VOLUME XXIV NUMBER 5

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**AMERICAN GAS ASSOCIATION**

**420 Lexington Avenue, New York, N. Y.**

American Gas Association MONTHLY

# CONTENTS FOR MAY 1942

*This is a precedent-breaking issue. First, publication has been delayed in order to include the Chairman's address at the Natural Gas Section Convention. Second, the* MONTHLY *has joined the crusade to encourage women to "Pack a Lunch a Man Can Work On." . . . Ordinarily, Chairman Robinson's address would not appear until June, but its timely significance and urgent message are compelling reasons for its early appearance. With Harold Ickes, Secretary of the Interior and a key figure in directing our war effort, on the same platform, it was appropriate to ask "Whither Are We Going?" and to answer in a forthright and typically American fashion. Chairman Robinson's message provides a rallying point for clear-thinking executives. . . . As the logical channel for the presentation of nutrition information, the gas industry has a splendid opportunity to get behind the lunch-box campaign which is now developing. The Bridgeport company has set the pace. Here's a chance for other companies to carry the ball in a program to provide more war production energy through nutritious lunches. It is not only a patriotic movement but one that will bring community good will to the gas company.*

PAGE

163 Whither Are We Going?.....J. FRENCH ROBINSON

167 Use It Wisely! Is Conservation Theme of Natural Gas Campaign

168 Pack a Lunch a Man Can Work On

173 A. G. A.'s War Stride—Total Effort of Association Directed to Vital Tasks.....JOHN W. WEST, JR.

176 Defense in Mobile—A Plan of Action to Protect Personnel and Property.....MAURICE WHITE

179 Home Volunteer Movement to Aid Conservation and Nutrition Program

180 Radiant Gas Burners—Use and Development in Industrial Furnace Design.....FREDERIC O. HESS

184 Personal and Otherwise

185 Convention Calendar

186 Affiliated Association Activities

187 Gas and Electric Utilities Report on War Risk Insurance Practices.....REGINALD FLEMING

189 Utility Accountants to Review War Emergency Problems

190 War Service First Is Home Service Creed.....JESSIE McQUEEN

193 How Industrial Gas Is Promoting Canada's War Effort.....D. H. THORBURN

194 Gas at Work on the War Production Front

195 Production and Chemical Conference to Review Technical Efficiency of Gas Industry

196 Cathodic Protection in New Orleans.....ROBERT J. KUHN

197 Immersion Tubes for Industrial and Commercial Heating.....F. E. VANDAVEER

200 Personnel Service

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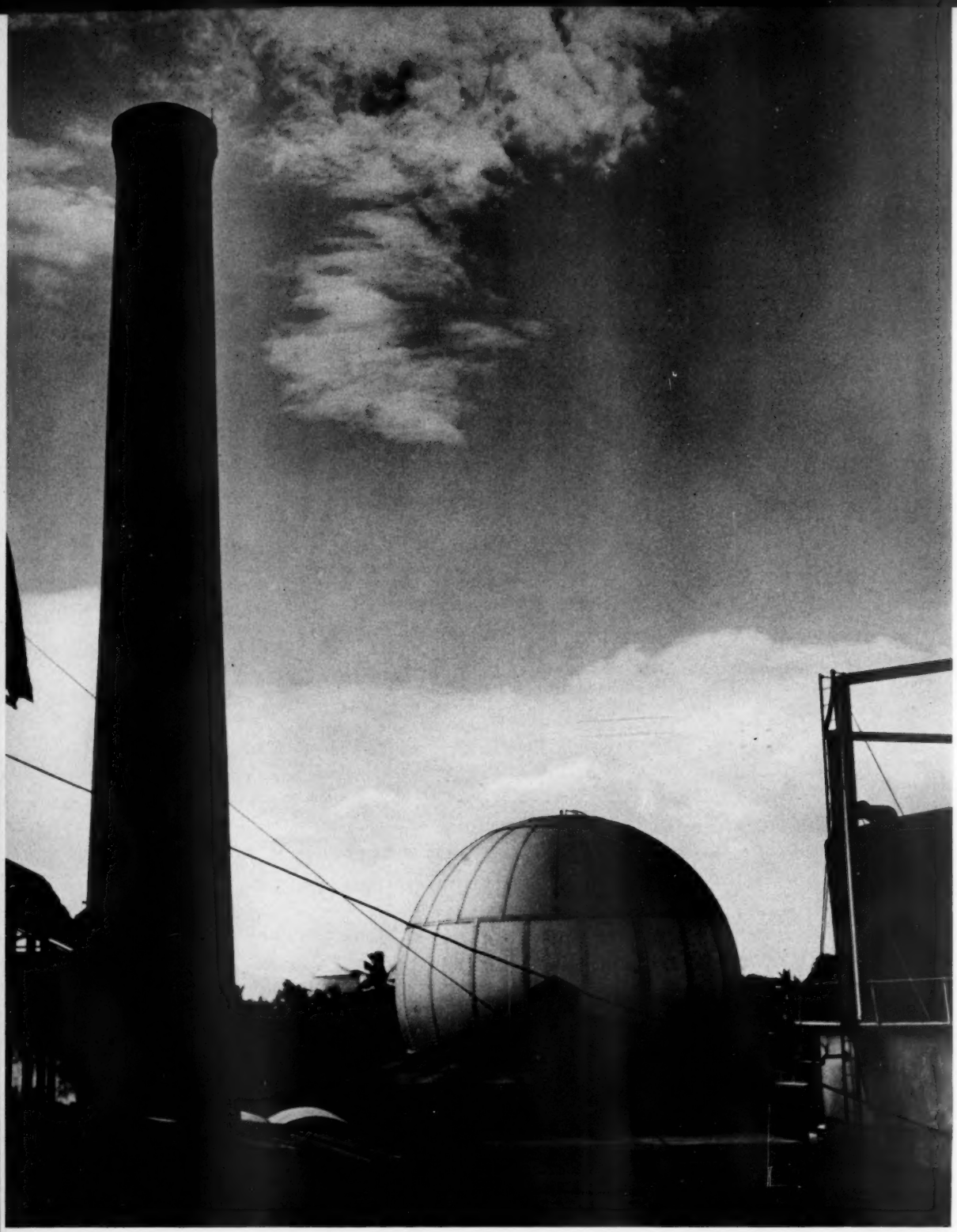

Photograph taken from the operating floor of the Florida Public Utilities Company's gas plant, West Palm Beach, showing hortonsphere and relief holder. Submitted by C. L. C. Kah, manager of the company, this picture by George Sanderson is the May winner in the A. G. A. contest.

American Gas Association MONTHLY

JAMES M. BEALL, *Editor*

# Whither Are We Going?

By J. FRENCH ROBINSON

*Chairman, Natural Gas Section, American Gas Association; President, The East Ohio Gas Company, Cleveland, Ohio*

YOU do not need to be reminded that the subject of my remarks was chosen for me several weeks ago and that things happen pretty fast these days. So, in asking "whither," it might almost seem that the question had answered itself in the meantime and that we are already *there*. But we're not. We're still going and we're still going fast.

The main thing to be careful of is to not get dizzy and fall by the way. Or get tired and give up trying to find out what may be ahead of us. Let us be courageous and patriotic, therefore, and keep that question "whither" right before our eyes. It is our business and our country and we have rather a first interest in knowing where they are heading.

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Moreover, if anybody tries to tell you: "Tut, tut, this is no time to be asking questions like that," I think it is your patriotic duty to reply: "This is, of all times, the right time to find out. Later may be too late."

The biggest thing in the world right now for us is, of course, the war, just as it is with everybody else. I think that issue can be summed up very quickly, as far as we are concerned, in the short, matter-of-fact and altogether true statement that everything we have and everything we are we will devote whole-heartedly to the prosecution of that war and to its successful conclusion. That is taken for granted. To embellish that creed would be to weaken it.

By the successful conclusion of the war, I mean—we all mean—a military decision over those with whom we are in battle. That, too, goes without saying. But very much more than a military decision over Japanese, Italians and Germans is meant by the successful outcome of the war. We mean how our country comes out of it and what comes out of it with us that will affect our country. Our business and our lives are tied up with the interests of our country. We are all going to come out of this war together. Are we going to come out of the little end of the horn or the big end? Our country and ourselves together, I mean, for we are inseparable.

That we are going to come out of this war successfully is the one great fact we will never lose sight of. Our government and its head have given their pledges to this end and committed the lives of our boys and the wealth of our nation to its accomplishment. We can pledge ourselves to its attainment, and we do, in the very words which officially define the successful prosecution of the war. It is to retain and maintain the "American way of life," which means just what it says. It means our American heritage of democratic institutions under representative self-government. It means free institutions and free opportunity for individual advancement through personal initiative and private enterprise. We shall not lose them in a war for their preservation. We shall not have to fight another war to recover them when this one is ended, as it must be and shall be before we have dissipated the things we are fighting for.

•

Not just in the material things are we interested either, but there are practical ways of attaining even the immaterial objectives of life, and industry cannot pulsate indefinitely with psychic throbbings or swing forever between the distant stars of benevolent aspirations. We have to get down to earth once in a while. War time, it seems to me, is essentially the time to be practical, to keep one's feet on the ground, and to inquire one's way.

Is "whither" a pertinent question? It is so pertinent

Chairman's address at annual convention, Natural Gas Section, American Gas Association, New Orleans, La., May 4-7, 1942.

now that it rides us every day of our lives. We can soar emotionally with the best and with the least responsible of them when soaring is in order, but an unswerving concern in where we are going to land when we come down is one of the most healthful signs I can find all around us. The question is asked on every hand; let's state it frankly here, without feeling: after an all-out war, what do we get back, and whose is it?

We have to bear in mind that when the time comes to land and we return from this war, it is our ship that will have to be brought into port and it will be we, ourselves, as Americans, who will have to make that landing. Let us say that it will take us two, three, or maybe even five years to arrive there. What we want to know now, and know continuingly, is where and what that port will be when we arrive there.

I think that we, ourselves, can answer that best. Luckily, the same concern rides with those who are in charge of the actual conduct of the war. It happens that they are interested almost exclusively in the economics of combat. They have to be. As an industry and as individuals we are supporting them at every point where military economics touches the living economy of the nation. We will continue to do that, and not get in their way by interfering with them, however friendly our intentions might be. The question "whither," and many others now bothering us, I again submit, are best asked of ourselves and answered by ourselves, and not tossed querulously at a Washington which, perhaps, has a lot of questions of its own that are hard to answer.

***"There must be no letdown in the eternal vigilance and hard work which sustains us and maintains us as an American institution which the American people prefer to depend upon for their daily gas service."***

It seems to me that this very obligation of complete economic and military collaboration which we have assumed for the duration of the war, imposes upon us in industry the responsibility of maintaining the basic American economy as a going concern. If this had not been done before the war, the military economy would have had nothing upon which to build. If this is not maintained during the war, American social economy will have nothing upon which to rebuild the country.

There is no alternative in modern war to a military economy such as that now rapidly shaping up in the United States. But, if there is no alternative to this form of social and industrial organization in a peace economy, then our people came to this continent in vain and we have been working on the wrong theory for a century and a half.

### American Way Will Prevail

Personally, I don't think that our people did start a new country in vain, or that they gave us the wrong theory on which to work. On that assumption, I am going to answer my own question of whither are we going. We are going to have our American economy back again, war-shattered and war-warped, to be sure, but the same America that we went to war for in principle. That is the answer we want, but we'll have to find it and earn it for ourselves.

From where we are now, therefore, let us keep our eyes on that objective, and do everything day by day in strict line with that point and along that line. It will be a wobbly line, I have to admit, but a line that we will never get far enough away from to prevent us from picking it up again, and going on.

We cannot expect those at the head of our government who are intensively interested in only one thing, the military conduct of this war, to do much else than that one thing. And certainly we won't bother them with anything else. We want them to keep their minds on what they're doing—and please not look up! We only ask them to let us know when and how we can help them. But if we are derelict toward our obligation of maintaining a basic American economy and way of life, while these others are taking what fits their purpose and directing it to our war effort, I submit that we have been as false to our trust as they would be to theirs if they did not look singly to the military aspects of this war.

The war management of this country looks just as much to the members of this industry to maintain it as a dependable, functioning member of the American social organization, as we look to the military and militarized units of industry to acquit themselves well where they are functioning.

The natural gas industry, as such, has felt the impact of war and war preparation from the very beginning and has, I think, responded consistently with the increase in the demands made upon it. That we will continue to do so is the solemn pledge which I am sure we all carry with us and shall do so until the successful outcome of this war.

***"The attitude of our industry, which moves it in all of its actions of this war, is one of complete co-operation with the government. There can be no other way. It is the patriotic way and it is the common sense way."***

The truth is, and it is well known, that the petroleum industry and the natural gas and natural gasoline industry are indispensable from the military standpoint of this country. This is a mechanized war. Fuel and lubrication are essential, not only for the production of war equipment, but for its movement to and operation in the actual areas of active war. Natural gas is not only the preferred, it is the necessary source of heat in many of the processes which enter into armament manufacture.

The leaders of these industries are giving their time and experience with all the research and engineering skill at their command to the solution of mechanized war problems. The list is very long, but I might mention 100 octane aviation gasoline, the butadienes for synthetic rubber manufacturing, lubricating oils which must meet new requirements, the heat treatment of metals, and the accurate application of heat by means of natural gas to countless processing operations which are not only best done with gas but for which there is no substitute.

In addition, men in our industry

are serving their country personally by contributing freely their time, their knowledge, and their hard work through the agencies of the Petroleum Co-ordinator. These efforts have been organized into and made more effective through the Petroleum Industry War Council of which natural gas and natural gasoline are a part. Through this highly organized council suggestions and recommendations pass to the Co-ordinator and his staff. These, in their turn, submit to the Council problems relative to war demands and exigencies, and expect the best solution of them.

I do not believe that our national leaders are intentionally or otherwise bending our course toward state socialism. I do not believe that in the confusion of war and in the scramble which always follows a war, our American system of personal initiative and individual incentive will be lost. Certain social and economic changes were in the cards and in the making anyway. War will accelerate them, no doubt.

We are all agreed on the fundamentals of these economic changes. We all know, also, that we haven't been as lucky in the working out of some of these changes as we might have been—and will be. All these things are accepted, commonplace facts. But we know, also, that wars as they are conducted today are devastating and catastrophic in every way, even to the people's habits and processes of thinking. You can't club a man all over the lot and then, even if he has "won," expect him to think clearly and instantly about business.

***"Keep your public with you. Its 'whither' will be your 'whither.' The public is not going to lose this war or lose the America it has been fighting for, through any mischance on the way out of the war."***

Wars take a lot out of people, as well as away from them. Picking up the pieces, after the expected ultimate military victory, is going to be a hard, uncertain business. The pieces will have to go back pretty quickly into some semblance of a going national economy. There won't be the care possible in this operation under stress, in a hurry, and with a lot of the original parts either broken or missing, which went into the gradual construction of American business and the American social economy.

Therefore, I say that we shall carry with us on the way the pattern which we expect to follow through the war or follow as nearly as we can and, if we have to lay it aside temporarily, put it where we can find it again and do what we do as we go along so that the reconstruction later will be according to a plan that we have never lost sight of. To give up as we go along is to have lost the war before it ends, even if it ends in a spectacular military triumph of our arms.

I know and we all know that there has been a terrifying amount of generalization, almost poetizing, on economic and social business subjects. You could almost call a lot of it just plain gush. I shun that tendency and urge you, as one brother should urge another, not to get into that habit.

### Fate in Our Own Hands

Therefore, in answering the question, where are we going and what will we be when we get there, I am going to say that we will wind up pretty much the way we have gone along and that, therefore, we will be making our own eventual picture as we go along. Let us then determine now what it shall be, well knowing that of necessity it will be changed in the process of fighting a war and winning something more, when we win the war, than a military decision over the armies of our enemies.

You know the picture as well as I do of the companies which make up this natural gas industry. It is a picture of acquitting ourselves well in the responsibilities we owe our customers, our communities, our country, and our owners—the stockholders. If we are good gas companies, we are good soldiers during the war and good citizens afterward. Nor will we consent to having our citizenship taken away or, as would be far likelier, lost by our own lack of foresight in the transformation from a war economy to a normal one.

In a word, we insist on going into the war whole-heartedly, going through it with maximum effectiveness—and on coming out of it again on the other side when it is over. When that roll is called, the natural gas industry wants to say: "Present." I believe that we should watchfully and honestly see to it every day, and from day to day, that we are still present as a healthy force in the great American economic system of free enterprise. In fact, we shouldn't go to bed at night unless we are sure we're going to wake up in time for roll call the next morning.

There must be no letdown in the eternal vigilance and hard work which sustains us and maintains us as the sort of American institution which the American people prefer to depend upon for their daily gas service. Keep your public with you, therefore. It's "whither" will be your "whither." The public is not going to lose this war or lose the America it has been fighting for, through any mischance on the way out of the war.

***"The lesson which our customers must learn and which we must teach them and which we hope they will never forget is, briefly, this: 'It is patriotic to use gas wisely.' I hope that motto hangs in every kitchen and over every water heater and every gas appliance everywhere in our land."***

We will make our own "whither" if we are any good, as we go along. We will take just one look back to see how we got to where we are now, for guidance in taking the next few steps. We aren't going to take many steps at a time, for a long while. All the more reason, then, for much looking and much carefulness in taking those that we do take.

The year 1941 saw the natural gas industry grow in size and in importance to the economic and social life of the nation. It saw natural gas grow more firmly and more extensively than ever into the foundation of Americans' living habits and their domestic life. Its instant recognition—and response—as a factor vital industrially to the winning of the war, is too fresh and clear in everybody's mind to need more than mention here.

The industrial consumption of natural gas increased almost 19 per cent over the year before. The war meaning of this is apparent. I am only sorry

that there is no accurate way of measuring just how much of this increase would have come about naturally and normally, due to the vitality of our industry in helping people to live better. Essentially is this true in the increasing *use* of natural gas in the people's home, giving them the better life in fact.

I have to call the domestic and commercial consumption a greater *use* of natural gas, as is evidenced by an increase of 5 per cent in the number of natural gas consumers, although the gross consumption for 1941 showed an increase in M.c.f. of only .6 per cent. This is an insignificant increase in consumption as compared with the increase in the number of consumers. As we all know, it is to be accounted for very largely by the increased efficiency of gas appliances.

This discrepancy between the increase in the number of consumers and the comparatively trifling increase in the quantity of gas sold is, therefore, a direct index of the increased usefulness of natural gas both in respect to the number of families served and in the amount of gas they used. It is, of course, one of the problems of each individual gas company to study this situation, which we welcome and which was largely brought about by the gas industry's own efforts of research and promotion in improving gas utilization.

### Gas Promotion Necessary

Nevertheless, while we have increased our customers' satisfaction with our product, it is an outstanding fact now confronting us, that means must be found to promote the wider use of gas appliances in order to increase our base load. As a matter of fact, the improvement in appliances and the consequent increase in the popular acceptance of gas for all household purposes which require heat where gas is best, is the very vantage ground we need in promoting its more extended use.

Two facts stand out here. One is that the small increase in domestic consumption is reflected only in our base load. The other fact is that, had it not been for the considerable increase in gas for home-heating, the over-all picture in gas sales would have been somewhat smaller than it was.

The Government Order L-31 has, of course, completely changed the house heating picture for the duration of the war. We are all familiar with that order, the purpose of which was the very wise one of putting a ceiling on the further acquisition of house heating load as of March 1, 1942, so that there is an end of increased house heating consumption until the end of the war, which, for all reasons and this one incidentally, we hope will be soon.

But this very house heating situation gives us, I believe, both an incentive and an opportunity for intensive work in the field where it is most needed, war or no war. Promotion, it seems clear to all of us, must continue for other reasons as well as this. Like everything else, even to our thinking and eating habits, promotion "for the duration" will reflect the war conditions. Like all else, for the time being, it will be geared into the war effort. Its nature and its quantity will be different. But the fact of promotion, and the nature of it, will have to be such as will help win the war and help find us a better country after we have paid the sacrifice of a war.

**AS this issue of the A. G. A. MONTHLY comes off the press, the thirty-seventh annual Natural Gas Convention is in session in New Orleans, La., May 4-7. Chairman J. French Robinson's timely and significant address is reproduced herewith, but all other events will be reported in detail in the June issue.**

The attitude of our industry, which moves it in all of its actions of this war, is one of complete cooperation with the government. There can be no other way. It is the patriotic way and it is the common sense way. This reasoning and this course of action include not only ourselves as natural gas companies but our customers as well for they, too, have their part in the winning of this war. Their part, like ours, is one of complete cooperation with the government in safeguarding and augmenting the supply of natural gas vitally needed in the production of armament. Our efforts must be directed to telling them the ways of doing this and helping them to do it. The lesson which our customers must learn and which we must teach them and which we hope they will never forget is, briefly, this: *"It Is Patriotic To Use Gas Wisely."* I hope that motto hangs in every kitchen and over every water heater and every gas appliance everywhere in our land.

I will make three general observations, but very practical pointed ones which we all know how to apply, in this matter of sales relationships with our customers under present conditions. The first is that our customers look to us for help now more than ordinarily. The second is, that if we merely wave the flag and shout how patriotic we are, and how many bullets natural gas is contributing to the cause, we are not discharging our proper obligation to our customers, our country or our stockholders. My third observation is that, in helping people get better results with natural gas by our teaching them the values and the practices of better gas utilization, we are helping them through the war, we are contributing materially to a better economy of this great energy resource which is a war effort in itself, and we are preparing for better living, all around, after the war.

### Better Days Ahead

For, if we are not going to have a better America in which to live after this war, we might just as well fold our tents now. But we are not going to fold our tents, because we *are* going to have a better country in which to live.

Whither are we going, in conclusion, is very largely answered by our doing every day the things which good gas company management knows are necessary for the maintaining of successful gas companies. This goes 100 per cent with our physical properties, our public relations and our political outlook, by which I mean, of course, our determination to preserve the traditions and practices of democracy. And these latter are very real things. The limitations of war are necessarily the limitations of our physical efforts along all lines. This should go without saying. But to hold our breath "for the duration" is as fatal to ourselves as it will be ultimately to the war we are fighting and to the cause which we are fighting to preserve.

# Use It Wisely! . . . *Is Conservation Theme of Natural Gas Campaign*

NATURAL gas has gone all-out for victory and the bulk of advertising and promotional efforts of the industry in the future will be directed toward consumer education, informing the public how vital this fuel is to the war program and why it is imperative to use it wisely and conserve it to the greatest extent possible.

Representing a "pacesetter" for the type of educational and informative efforts desired by the government is the current campaign of the natural gas companies serving the Greater Pittsburgh area. The program is aimed not only at promoting immediate gas conservation but toward laying a foundation for consumer cooperation next winter when the situation in respect to gas supplies is expected to be much more critical.

### Government Supports Program

Some months ago representatives of the Office of Production Management, since absorbed by the War Production Board, approached the Pittsburgh group, including the Equitable Gas Company, and Manufacturers Light and Heat Company, and solicited their assistance in mapping a hard-hitting, plain-talking drive for natural gas conservation.

In response to the government's request, these suppliers, in collaboration with their agency, Ketchum, MacLeod and Grove, Inc., Pittsburgh, designed a practical, long-range program which has received the approval and commendation of the government and the natural gas industry as well. The campaign was built around the slogan: "Natural gas is vital to war industry. Use it wisely!"

Copy in one of the series of advertisements appearing in all three Pittsburgh daily newspapers and a long list of smaller newspapers circulating in out-of-city communities, reminds consumers that the use of natural gas by Pittsburgh's industries has risen sharply "and must go even higher as America lifts her sights to a scale of war production beyond our yesterday's imagination." It adds: "In spite of this unbelievably heavy and increasing load, the local natural gas industry, because it had drilled new wells, provided for vast underground storage, built new pipelines and new compressor stations, is continuing to serve its normal domestic and commercial gas users."

Later on, with the advent of warmer weather and a consequent reduction in the consumption of gas for domestic heating, the companies are planning to tie in their advertising with the government's nutritional campaign, promoting careful cooking to preserve many of the nutritional values in foods which would otherwise be destroyed.

The national advertising of the Industrial and Commercial Gas Section directed to industries and commercial fields also is playing up the important part natural gas is playing to bring about ultimate victory. One of the ads in the series scheduled by the Pittsburgh companies, headed "Behind our armed forces . . . . the steady flame of gas!", was reprinted by the A. G. A. in *Business Week*. Advertisements appearing in 11 trade publications reaching seven different fields tell the story of why natural gas was selected by war industries as a vital material of war, and how it reflects the inherent advantages which have made gas the preferred fuel for industrial and commercial heating purposes.

Behind our armed forces
. . . the steady flame of Natural Gas
Natural Gas Companies
Use it wisely!
Gas Required by Industry UP 126% in Three Years!
Natural Gas Companies
We've got to win this war!
Natural Gas is speeding War Production
NATURAL GAS COMPANIES

*Advertisements in the Pittsburgh series*

# PACK A LUNCH A MAN CAN WORK ON

**The gas industry already has set the pace in promoting the government's national nutrition program. Here is another timely development and the gas industry is again in the vanguard. It's a nutrition "natural" for gas companies.**

TODAY we know enough about the importance of nutrition to be able to say that the number of planes, guns, tanks that come out of the nation's plants is determined largely by what the nation's workers put into their stomachs. The speed of a machine depends on the quality of the fuel used; the speed of a factory depends on the diet of the men on the assembly line."

Authority for that statement is Dr. Victor Heiser, world-famous Rockerfeller Foundation health pioneer and author of "An American Doctor's Odyssey." He states further in his "prescription for production," that "the number of men in the battle line no longer is the decisive factor in determining the outcome of a war. This is a day of mechanization when victory or defeat depend upon the efficiency of men in the factory assembly line."

If the average citizen were given three guesses as to the major factors that cripple war production, his answer would be: strikes, bottlenecks, and accidents. He'd be wrong in each instance. An alert production man will give the answer correctly at once—illness. A regiment of common ailments like colds conduct a constant guerilla warfare against the industrial worker.

What is the cost of illness in terms of war production? In one month alone, last December, according to the Gallup Poll, the time lost from war industries or war-connected industries because of illness could have built two heavy cruisers, 448 medium bombers, or 3,200 light tanks. Another authority has estimated that in a normal year, not wartime mind you, 1000 "Flying Fortresses" could be built in the time—190,000,000 man-hours all told—lost annually because of sickness.

Even before the war, the American Telegraph and Telephone Company noticed the relationship between the total of wrong numbers given by operators and poor diet. What does all this add up to? It means that faulty diet, bringing with it illness and physical languidness, is a serious threat to our war production effort.

Dr. Heiser terms proper food consumption "high octane gas" for the worker. He says that education is the best method of bringing about the application of scientific knowledge; that the goal of education must be to teach the individual to get the vitamins and minerals he needs in his daily food. But, as he points out, education is a long slow process and our needs are immediate. We must find quicker processes than formal education or long-term health programs to serve as funnels for the fueling purposes. He recommends the use of commercial channels such as advertising and the use of existing organizations to fill the gap.

Here is a splendid opportunity for the gas industry to step in and render invaluable service. It is true that gas companies have been doing food and nutrition work for years and have been leaders in the national nutrition program, but there is one phase of this problem that has been little explored

and offers high dividends in increased war production—and that is the workers' lunchboxes. Too little attention has been paid to the problem of seeing to it that the worker has proper nutrition while he is "on the job" for Uncle Sam and for you and me.

What industry is better equipped or more efficiently organized than ours to conduct a campaign along national lines to put more "high octane gas" in the workers' lunchbox? We have a ready-made organization of trained home economists in our home service departments. We have the fuel that cooks the meals for more than 85 million people. In fact, we represent the greatest common denominator of food preparation in American history. It is our function and our duty to give our rich experience the widest possible use.

**Bridgeport Leads the Way**

At least one gas company is doing something about it in a big way. The Bridgeport Gas Light Company, Bridgeport, Conn., last month launched an intensive campaign to educate workers' wives to pack better lunches. Under the direction of R. A. Maloney, sales manager, with the assistance of Betty Stafford, home service director, this campaign has struck a responsive chord and is receiving wholehearted support from newspapers, business organizations, local doctors, government officials and workers alike. It is being conducted in cooperation with the Cup and Container Institute which is actively attempting to arouse interest in this subject.

Bridgeport is located in a highly industrialized New England area with many armament factories which are vital cogs in the nation's war production machine. It recognized early, after surveys showed that many workers were eating lunches containing inadequate nutritive value, that much lost time and inefficiency was caused by improper diet. But it remained for the gas company to become the spearhead of a campaign to rectify this condition. Other companies can do the same.

The Bridgeport campaign revolves around the slogan "Pack a Lunch a Man Can Work On." Newspaper advertisements by the gas company announcing the campaign and driving home this slogan have already ap-

Photograph by courtesy of H. J. Heinz Co.

*Dr. Charles F. Yeager is in charge of the industrial health of all the Remington Arms plants throughout the country, employing thousands of workers. There are fourteen thousand workers in the Bridgeport plant alone. He says: "We are giving our whole hearted support to the campaign 'Pack a Lunch a Man Can Work On.' There is certainly plenty of opportunity to improve the type of lunches carried by the average worker."*

*Dr. Joseph H. Howard, Chairman of the Health Council of the Civilian Defense Committee of Bridgeport, under whose auspices the Bridgeport Workers' Lunch Box Campaign is now being conducted, says: "The more we go into this campaign to 'Pack a Lunch a Man Can Work On' the more we realize that it is answering a definite need. Employers and workers alike have been quick to recognize the beneficial effect of a balanced workers' lunch on the speeding up of the war effort. With the gas company furnishing the original push we expect to enlist all interested agencies in the drive."*

*Dr. Richard O'Brien Shea, Health Officer of the City of Bridgeport, a strong advocate of health measures in public eating places who received national prominence for his efforts in obtaining legislation regarding the sterilization of drinking glasses in the City of Bridgeport, says: "In an industrial city like Bridgeport the health of the war workers is paramount. It is imperative that they have good food in sufficient quantities to enable them to put the necessary energy into the war program. The campaign, sponsored by the gas company, to aid in the preparation of home-packed lunches is not only helpful but absolutely necessary. Many workers have but fifteen minutes for lunch and real planning is essential to provide a healthful meal to be eaten in such a short period."*

peared. A full-page Sunday feature story and newspaper articles have further called attention to the lunchbox campaign.

A folder containing complete instructions for planning and packing lunches, with food recommendations checked by Columbia University, has been developed. These folders are being distributed without charge to the workers in the large plants in the city and at three recently created Nutrition Centers located in the Welfare Building, St. Vincents Hospital and The Bridgeport Gas Light Company's office. An important preliminary step was the establishment of the gas company in the minds of the people as the nutrition authority in that community.

Conferences have been held with various industrial plant management officials and their support has been spontaneous. These plants will be furnished with manuals prepared by the gas company to assist them in educating their workers to carry more nutritious lunches. The Bridgeport Manufacturers' Association has volunteered to distribute information to its members throughout the city.

Support for the campaign has also come from the local labor organizations who have worked out a plan of cooperation. A special course on how to pack a lunch will be given by the gas company to women designated by the labor union auxiliaries. These women will then instruct the workers' wives at demonstration meetings. In addition, the support of women's clubs and civic organizations is being enlisted in the drive.

The gas company plans to direct a house-to-house survey of 1000 families representing four different income levels, including the foreign language group to gather facts on workers' lunches and to determine what information is needed most. One of the local newspapers volunteered to interview its own employees to obtain information which would be useful in planning the larger survey. Representatives of large manufacturers have indicated their willingness to conduct similar surveys in their own organizations. A member of the Cup Container Institute, the Dixie Vortex Company, is assisting the gas company in its survey.

The home service department is conducting demonstrations to teach

*The Bridgeport home service department compiling an industrial manual on workers' luncheons. Copies will be furnished to industrial, public health and welfare centers*

*Cover of four-page folder distributed by the Bridgeport gas company. Inside of folder contains luncheon suggestions reprinted below and other useful information*

PACK A LUNCH
A MAN CAN WORK ON

Planning the Lunch . . . . .

Packing the Lunch . . . . .

## Suggestions for a 5-Star Lunch

★*Plan it* the day before. Buy or cook enough food for your dinner so there'll be some left over for the lunch box.

★Have all food and equipment conveniently stored in one place, so the lunch can be packed quickly in the morning.

★Wrap all dry food in wax paper; pack puddings and salads in paper containers with lids and include paper "hot-drink" cups for hot dishes.

★Put into the lunch box every day:

*Milk.* In food or drink.

*Bread.* Whole wheat or enriched. In sandwiches, puddings or meat loaves.

*Meat or cheese or eggs or fish.* In sandwich fillings, salads, or hearty main dishes.

*Fruit.* At least one, plain, or in salads or puddings.

*Vegetables.* At least one, in sandwich fillings, salads, or in hearty main dishes.

★Clean and air the lunch box and vacuum bottle every night.

**SANDWICH FILLINGS**

Cream Cheese and Chopped Olives moistened with Evaporated Milk
Ground Corned Beef, American Cheese with Prepared Mustard
Chopped Nut and Fig
Mixed Vegetable, Green Pepper, Celery and Carrot
Bologna with Watercress
Liverwurst and Watercress
Ground Ham or Beef with Relish
Ground Cooked Liver, Celery and Relish
Ground Veal and Carrot and Celery
Chopped Beef and Cabbage
Codfish Cake
Chicken Salad or Sliced Chicken
Peanut Butter with Bacon, Jelly, Figs, Dates, Prunes or Tomato
Shrimp, Tuna, Salmon or Sardine Salad
Baked Beans mashed with Catsup
Sliced Egg, Ham and Egg
Scrambled Eggs with Green Pepper
Cold Beef Lamb, Pork, Turkey
Cottage Cheese
Cheese and Orange Marmalade
Cheese and Onion
Chicken Liver
Chicken and Tongue
Liver and Bacon
Green Pepper, Pimento, Chives or Onion

**BREADS**

Nut, Cornbread, Whole Wheat, Quick Bran, Enriched White Raisin, Oatmeal, Graham, Rye, Cracked Wheat, Prune or Apricot bread

**SALADS**

(These are easy to pack and will keep well in paper containers with lids)

Carrot Curls

*Betty Stafford, home service director, The Bridgeport Gas Light Co., surrounded by a group of interested women following a lunch packing demonstration.*

women how to pack nutritious and appetizing lunches. Other features of the lunchbox campaign are being developed, such as a contest for the Best Lunch of the Week to be conducted either by a local newspaper or the gas company, and a demonstration for factory workers by Civilian Defense Councils.

The campaign in Bridgeport has received the hearty endorsement of M. L. Wilson, assistant director in charge of the nutrition program of the Office of Defense Health and Welfare Services, Washington, D. C. Mr. Wilson recently stated that a countrywide campaign to improve specifically the food of labor would be started within the next few weeks.

That other companies have been active in this field is indicated by the response to the American Gas Association's home service bulletin of April 8 calling attention to the interest centered in satisfactory and nutritious lunches for factory workers. For example, Jeanette Campbell, home service director, Minneapolis Gas Light Company, pointed out that her department had been mailing a recipe sheet called "The Lunch Pail," since last November. This same company plans to open a Nutrition Center on the sales floor on May 1, and during the month of May will show a properly packed lunch and dispense information concerning food preparation for this purpose.

Servel, Inc., in Evansville, Ind., manufacturers of gas refrigerators in peace time and now converted to war production, at the suggestion of the government is conducting a series of experiments on the value and benefits of food and nutrition through balanced meals at home and in the plant. In the first of these tests, it was found that the average defense worker has only a hazy idea as to the right kind of foods to eat and what constitutes a balanced meal. Consequently, this com-

*The first in a series of newspaper advertisements designed to drive home the importance of providing nutritious lunches for war workers*

Apple and Cheese Salad (cut in small cubes)
Whole Carrots rolled in Chopped Parsley
Chopped Celery, Apple, Raisin Salad
Radishes (Whole or Roses)
Chopped Alligator Pear and Orange Salad
Stuffed Celery
Chopped Banana and Peanut Salad
Mixed Vegetable Salad of Raw Spinach, Watercress, and Beets
Mixed Vegetables Salad of Asparagus, Tomato, Eggs, and Green Pepper
Cole-Slaw made with Chopped Oranges, Raisins, Cabbage, Green Pepper, Raw Beets and Pimento
White or Yellow Turnip Strips
Chopped Cheese, Meat, Fish or Egg Salad
Mixed Fruit Salad
Molded Vegetable Salad
Stuffed Tomato with Tuna, Chicken or Salmon
Grapefruit and Celery Salad
Chopped cooked Beet and Cucumber Salad
Raw Cabbage and Carrot Salad
Chopped Prunes, Cabbage, Oranges and Peanut Salad

**MILK SOUPS**

Cream of: Corn, Potato, Green Pea, Potato and Spinach, Bean, Tomato, Asparagus, Mushrooms, Spinach, Onion, Celery, Clam Chowder, Fish Chowder, Watercress and Cauliflower

**VEGETABLE AND MEAT SOUPS**

Lentil
Mulligatawny
Black Bean
Ox-Tail
Pimiento
Veal Tomato
Chicken with Rice
Creole
Mock Turtle
Scotch
Vegetable Beef
Tomato

**HOT HEARTY DISHES**

that may be carried in vacuum bottles

(Be sure to cut meat and vegetables in small cubes)
Fillet of Beef with Vegetables
Beef a la Mode
Oven Stew
Cream Dried Beef
Irish Stew
Minced Lamb
Mutton Curry
India Curry
Ragout of Kidneys
Creamed Fish
Chili Con Carne
Sausage with Cream Gravy
Creamed Tuna, Salmon
Beef Ragout
Beef or Lamb Stew
Baked Beans
Macaroni in Cream Sauce with Cheese
Creamed Eggs and Green Pepper
Chop Suey (American or Chinese)
Creamed Oysters
Creamed Finnan Haddie
Creamed Cod Fish

**DESSERTS**

Fresh Apple
Baked Apple with Cream
Baked Apple stuffed with Raisins
Apple Brown Betty
Apple Pie and Cheese
Apple Sauce
Apple Tapioca
Apple Gingerbread
Fresh Banana
Banana Custard
Banana Chocolate Pie
Banana Apricot Pudding
Banana Tapioca Cream
Banana Bavarian Cream
Banana Prune Whip
Banana Apple Scallop
Butterscotch Tapioca
Blueberry Pudding
Creamy Rice Pudding
Cracker Custard
Cold Cabinet Pudding
Chocolate Bread Pudding
Fig Pudding
Indian Pudding
Kiswick Pudding
Peach Pudding
Prune Whip
Rhubarb Tapioca
Rice with Fruit
Stewed Prunes
Strawberry Shortcake
Spice Pudding

pany is adopting a program of supplying government-recommended nutrition information to all its workers.

Good results have been reported by Dr. Heiser from experiments which have brought natural foods to the men in industrial plants. In England many workers are now receiving "Oslo Meals," so-called because they were first provided to industrial workers in the Norwegian capital. These between-meal snacks consisting of cheese, whole meal bread, a raw carrot, milk, half an orange, half an apple, are served at rest periods in the forenoon and afternoon.*

However, in many areas in this country the most pressing question is not whether the defense worker's meals can be supplemented but whether he can get a decent lunch at all. Where new plants have brought large crowds to formerly small communities, eating facilities are often entirely inadequate. The result is that by the time workers can obtain any food they usually have only a few minutes of their lunch period left in which to gulp it down. A survey of a middlewest community, showed that defense workers were spending nine minutes on their lunch; and that workers with box lunches ate just as hurriedly because there was no place available that was conducive to relaxation and restful eating.

### Diet Lacks Vitamins

A recent study in Cincinnati of factory workers' diet revealed what was characterized as "shocking ignorance" of basic principles of nutrition. Men who must turn out huge quantities of planes, guns, ships, tanks, are trying to do so with no breakfast at all, or with a breakfast of coffee, or coffee and toast. Lunch consists of a sandwich for 42.8 per cent of those questioned. Seventy-eight per cent had no salad; 61.1 per cent no bread with their lunches; 55.4 per cent no meat; 50.8 per cent no vegetables. Only 11.3 per cent had soup.

Another study of a large aircraft plant showed 69 per cent of the workers not getting enough vitamin A, 80 per cent lacking B-1, 30 per cent lacking C. Production in England could be speeded up 15 per cent if English workers were better nourished, Ernest Bevin, Minister of Labor, said recently.

The view that lunches in many cases must supply *more than one-third* of the day's nutrition requirements has been upheld in some studies of typical dinner menus for workers. It is reported that box lunch concerns have sprung up in many war industry areas to supply feeding needs of workers. Contents of these box lunches are usually not nutritionally complete and foods or services may be of questionable cleanliness.

According to Dr. Howard W. Haggard of Yale University, the food used for supplemental feeding of workers should contain all known vitamins and minerals, be easily digested and provide a quick source of energy. Service should be such that no preparation of food on the spot is necessary. All danger of contamination must be eliminated.

### Paper Containers Practical

Experience has shown that single-use paper cups and containers answer service needs. Many plant managements which insist on the use of paper for all food served in the plant point out the danger from accidents or sabotage of having bottles, other than thermos bottles, on the premises. Generally speaking, the use of glass containers is discouraged for this reason.

In connection with the use of paper containers, the Cup and Container Institute, 1790 Broadway, New York City, which has been of fine assistance in the Bridgeport campaign, is offering full cooperation to any gas company wishing to conduct a lunchbox campaign. This organization is currently demonstrating the value of paper products in the lunch box by testing the food uses to which they may be put, and by developing menus and recipes for nutritious foods. It is pointed out that these containers provide one of the best ways of introducing variety into the lunch box. For example, raw vegetable salads, hearty milk and egg puddings, cooked fruits, molded salads, and meat aspics can all be prepared, packed and eaten in such containers. Such "main dishes" as macaroni and cheese, baked beans, meat pies, etc., when eaten cold, and stews, hot coffee, hot soups and other foods to be eaten hot, can be packed in heat-resisting paper or in vacuum bottles and poured into paper for eating and drinking.

Special attention should be given to the night shift, whose days are geared in reverse and whose meals represent a peculiar problem. As the H. J. Heinz Company, Pittsburgh, points out in an excellent book of food hints and recipes entitled "If He Works By Night —," the whole pattern of the worker's home life and habits is changed. To get him to eat properly often becomes a major challenge to his wife's ingenuity and inventiveness.

Many night-shift workers never see daylight during the week and their diets must take this into consideration. One advertising executive, George Bijur, brought out some interesting facts in a recent article "The Market That Lives Upside Down":† Women were asked "Does your man eat any different food when he's on the night shift?" "Well," said one wife, "he's got to the point now where he drinks more milk than a year-old baby." Many reported packing soup in lunch boxes because the men didn't have enough time to eat and properly digest solid foods. Thirty-four per cent of those interviewed reported a change in the foods provided.

### Night Workers' Problem

Mr. Bijur's survey called attention to a general loss of appetite due to the lowered efficiency of the night worker's whole system. He noted that the three most popular sandwich fillings—ham, "lunch meat" (meat spiced with pickles, relish, etc.) and cheese—include some highly spiced ingredient to stimulate a lagging appetite. He concludes that "How's your health?" must be a favorite topic of night-shift conversation, judging by the emphasis on nutritious food.

The U. S. Army, realizing the relationship of health to efficiency, guards the health of its forces with every feasible precaution. On the other hand there has been no nationwide, systematic approach toward maintaining the health of the men on the industrial front. The lunchbox problem is an important and vital part of this picture. Gas companies throughout the country can render no better service to the war effort than to take the lead in placing more "high octane gas" in the workers' lunchboxes.

* For further information see "The Oslo Meal: Its Acceptability Among Industrial Workers," Journal of the Royal Institute of Public Health and Hygiene, October, 1940.

† "Advertising and Selling," April, 1942.

# A.G.A.'s War Stride . . . *Total Effort of Association Directed to Vital Tasks*

*John W. West, Jr.*

By JOHN W. WEST, JR.
*Secretary, Residential Section, American Gas Association*

TODAY, America is engaged in the greatest all-out war effort that the world has ever known. Today, the paramount challenge facing the gas industry is to make the maximum possible contribution to the winning of this war. Upon how well we accomplish this vital objective and at the same time find solutions to the many questions and problems resulting from priorities, limitations on gas sales, appliance shortages, and restrictions on consumer buying—depends our future as America's sixth largest service industry.

### The Challenge of War

This war is not only a challenge to the gas industry as a whole—it is a challenge to each and every one of its 140,000 employees. The home and production front is infinitely more important in this war than was true in any previous conflict. I doubt seriously whether many of us fully realize this fact. We still look upon our man in the armed service as "the knight in shining armor" and don't yet realize how many are necessary at home to mobolize him, to arm and equip him, to support and to supply him throughout this war in the manner necessary for victory.

The American Gas Association is a cooperative organization of a truly democratic nature. It is the national trade association of the gas industry, operated by the gas industry for the industry, and in large measure, the public it serves. Practically all of the activities of the Association are initiated, sponsored, conducted or administered under the supervision of its General, Sectional and Laboratory Committees with a total *membership* of 1900 representatives of the industry and of consumer groups.

War has affected every gas company in many vital ways, and it has transformed and converted the activities of the American Gas Association to the point where the majority of its efforts are now concentrated on aiding successful prosecution of the war.

It would require several hours to recount all of the war activities of the Association. Instead, let me mention only a few of those of prime importance and thus indicate the trend of the others.

In at least one way, the war activities of the Association distinguished it from other trade associations in that they actually began in 1939 before the start of hostilities in Europe. At that time we started the collection, by official and unofficial means, of all European literature which dealt directly or indirectly with the effect of the war upon gas utility service. The collection of this material has been continued and recently it has been collated, digested and adapted to American conditions, and is now available in a loose leaf book entitled "War Protection of the Gas Industry." A copy has been distributed to every company member of the Association.

Some of you may feel that there is very little danger of plants in the interior suffering from bombing, sabotage or interruptions of service due to combat conditions. But the gas industry will suffer for every occurrence of this kind to any plant wherever it is located, and it is essential that all companies have the latest available information for their guidance in minimizing these potential hazards.

At the same time this work was started, a special committee was created by the Executive Board on the subject of National Defense. This committee, now known as the Committee on War Activities, is headed by Ernest R. Acker, president, Central Hudson Gas & Electric Corporation, with seven other outstanding executives of the gas industry as members. It is the top coordinating committee of the Association, with full authority to initiate any war activities that the committee believes essential to insure the full coordination of the war work of the Sections and Committees of the Association, and to hold itself in readiness for prompt action in an emergency on any matters originating with the Government, the Executive Board or the gas industry.

### Air Raid Precautions

One of the first war steps of the Association after Pearl Harbor, was the action taken to clarify the question of the shut-off of gas service in dwellings during the period of air raid alarms or actual bombing. Some of the local defense groups, with the best intentions, issued conflicting recommendations on this subject. Shortly after the first of the year an emergency meeting of the operating gas men was held in New York City with the result that authoritative recommendations were presented to the Office of Civilian Defense in Washington whose pronouncements have served to clarify the situation on this question from the viewpoint of the nation as a whole.

We all know about the government's programs to promote national nutrition and food conservation during this war. Through leadership of the Association's Home Service Committee, the majority of home service departments are already contributing magnificently to the promotion of this program in their localities. During the

spring of last year, the Home Service Committee published a complete bibliography of all the authoritative material then available on the subject of nutrition. More recently the committee has issued a booklet "Home Service Volunteers," which is really a bible of the steps that home service departments can take and are taking in support of this program.

The gas industry's national advertising program, now about to enter its seventh year, has been revamped to constitute an intelligent far-sighted and completely patriotic program to help the consumer feed her family better and more economically during the war; and to promote such other government sponsored war activities as the gas industry can perform as an outstanding public service. Proofs of some of these ads appeared in the last issue of the A. G. A. MONTHLY. Tie-in newspaper mats will be available to member companies along with these ads. In this case the gas industry will be about a month in advance of a similar campaign by food products manufacturers which will appear in the June issues of the *Saturday Evening Post*.

### Nutrition Program

To encourage and guide all companies in making the fullest use of their home service departments, and of all other company resources in support of this nutrition program, the Executive Board recently authorized the appointment of a Special Nutrition Committee of industry executives, headed by B. A. Seiple, vice-chairman of the Residential Section. You will shortly receive from this committee a portfolio listing all possible ways and means of supporting this program of the government. The gas industry is in a particularly fine position to be of service to its customers and to the nation in this matter, because of the fact that it supplies the cooking fuel for some 85 million of our population.

The conservation of critical materials such as steel, brass and copper is a key plank of the government's war program. During the latter part of February the War Production Board requested the American Gas Association to draw up a set of emergency gas range requirements which would permit a substantial saving in these critical metals and still insure a gas range that would be safe and efficient for defense housing and civilian replacement purposes during the emergency period. Time is the essence of success in such matters. In this case the A. G. A. Laboratories had already set up a committee for the consideration of any modification of appliance requirements that might be demanded by emergency conditions. This committee was able to hand such a set of Emergency Range Requirements to the War Production Board less than a month after it was originally requested. Similar emergency requirements are now being prepared on gas water heaters, and it is expected that others will be requested for space heaters and central plant heating equipment.

### Salvage and Equipment Exchange

Our Committee on War Activities has initiated an Equipment Exchange at Headquarters for the purpose of notifying the gas industry of all new or used equipment no longer necessary in one location, which might prove of value to other gas companies. The committee has also urged every company to turn in all available scrap and other material to authorized junk dealers for conversion into war items, and many tons of material have been reported by numerous member gas companies.

With the growing restriction on the production of new gas appliances of all kinds, customers and companies alike are more interested than ever in lengthening the useful and satisfactory life of their present household gas appliances. Our latest publication on this subject is this home service bulletin—"Uncle Sam Wants It To Last"—distributed to the industry on March 31. It carries a long list of suggested ways and means for taking care of gas ranges, water heaters and refrigerators, and recommendations for their correct use in preparing and storing food to best preserve its nutrition value.

We are now issuing a somewhat comparable book on the care of commercial gas equipment.

The activities of the managing director and staff members at Headquarters and at our Washington office on the subject of priorities, orders, regulations, supplies and war activities of all kinds, continue to be in great demand by the gas industry, and are unquestionably a great aid in the industry's efforts to help win the war. Time and time again the counsel and advice of the Association and its members have been sought and gladly given to the government for the purpose of conserving the resources of the industry for war work, and at the same time maintaining its essential services.

Give ME A LIFT
for
The BIG SCRAP
TO VICTORY
IF YOUR SCRAP PILE COULD TALK
IT WOULD ASK FOR A RIDE TO TOWN
SO IT COULD HELP WIN THE WAR!
The NEED IS URGENT!
SALVAGE for VICTORY

*A poster by International Harvester Company which impresses upon people the patriotic urgency of turning in scrap piles for arms production*

### Motor Vehicle Conservation

Many gas men have given unselfishly of their time and experience to aid the government in providing the minimum amount of equipment, raw materials and supplies for the maintenance of gas service so as to leave the maximum supply available for war effort. Activities of this sort have ranged all the way from supply of coal and oil for manufactured gas companies on the East Coast to ways and means of conserving tires and automotive equipment without reducing the calibre of services really essential to our customers. This report on this latter subject included a transcript of the discussion of the Tire Rationing Order P-46 given by a representative of the Office of Price Administration at a special meeting of the Association's Committee on the Operation of Public Utility Motor Vehicles.

Now, as never before, it is important that gas men join together in full and frank discussion of our common

problems and share our ability and resourcefulness by imparting our opinions, experiences and plans to our colleagues. To this end round-table forums, or clinics, for full and informal discussion of every sort of industry problem have been frequently held during the past few months. If I were a candid camera fiend I would now show you pictures of many of these meetings. Instead I can only tell you that sales clinics on residential sales problems have been held in the eastern natural gas region, the mid-west territory, and in the southern-southwestern area since the first of February. Industrial and Commerical sales forums were held in Pittsburgh during March.

The Residential Section is now making a survey of the ways and means used by 20 typical gas companies to maintain their sales organizations and utilize them most effectively under our restricted war economy. The results of this investigation will be broadcast to the industry within the next month. This survey will doubtless be repeated quarterly for the benefit of those in charge of sales and for the information of company management.

### Technical Conferences

Conferences on production and chemical operations, and on the operation of motor vehicles will be held in New York in May, and a similar meeting on distribution will be held in connection with the natural gas meeting in New Orleans during the same month. In fact, the entire program for the annual Natural Gas Meeting has been planned in the belief that conferences of gas executives and men in supervisory positions are more important than ever in solving current problems and expediting the readjustment of the industry to the new conditions which will prevail at the end of the war.

The long years of Association research in industrial and commercial fields are now contributing tremendously to the efficient utilization of gas in war production industries.

Our utilization department has been extremely busy for many months answering inquiries from government bureaus, gas companies, and in many cases, industrial customers manufacturing war products, for information and guidance in using gas for wartime purposes. It would be impossible to list even the principal inquiries of this nature. One striking example is a request for assistance from the manufacturers of airplane superchargers in the solution of combustion problems relating to these devices.

*A symbol of change in America is this photograph of a signboard being converted from a gas house heating advertisement of the Western United Gas and Electric Co., Aurora, Ill., to a patriotic appeal for the purchase of war bonds*

Another striking request concerns the best method of utilizing gas for the production of *magnesium* by the sublimation of dolomite.

The key men from the natural gas industry who are now serving on the coordinating committees of the Office of Petroleum Coordinator are doing yeoman service in aiding the coordination of the natural gas industry and the conservation of this great resource for the war effort. More than 50% of the time of the secretary of the Natural Gas Section is now spent on this activity, acting in liaison between the coordinating committees, the War Production Board and other federal agencies.

When peace finally comes we in the gas industry shall have an entirely new set of problems to solve. There will be a tremendous back-log of demand for durable goods and equipment that should cushion the post-war adjustment period for many industries, including ours. But there will be tremendous competition such as we have never seen before, for the customer's *dollar*, and there is certain to be direct competition of the most serious kind between the gas, electric and other industries in position to supply fuel in the residential, commercial and industrial fields where gas has always been pre-eminent.

This prospect for increased competition would seem to demand that every gas company should at *least* maintain the nucleus of its effective sales *supervisory* force in order to be able to mobilize its domestic sales personnel *promptly* and *fully* at the end of the war. If the supervisory group is permitted, through lack of foresight, to slip unnecessarily into decline, the men of experience who have made that force successful in the past will not be prepared to assume the great task of sales reconstruction after the war when their services will be *more* sorely needed than ever before.

The American Gas Association was organized in 1919 because conditions of the first World War made it evident that the gas industry needed a single national organization. In a sense, therefore, this war is a test of the wisdom of the founders of your national trade association. We at headquarters take it as such, and with confidence are doing everything within our power to hasten the day of victory.

# Defense in Mobile . . . *A Plan of Action to Protect Personnel and Property*

By MAURICE WHITE

*Vice-President, Mobile Gas Service Corp., Mobile, Ala.*

IF disaster strikes at Mobile, Alabama, through bombing or sabotage, the Mobile Gas Service Corporation will be found ready to meet the emergency and to protect its service to the more than fifteen thousand gas users in that southern city.

All of the company's 127 employees and 100 men assigned to gas utility defense by the local civilian defense organization have been formed into a defense unit and are being trained to handle any emergency that may develop in the city's system. The plan was worked out with the cooperation of O. C. Waters, who has been largely responsible for the detailed plan of the Atlanta Gas Light Company.

### Centralized Organization

In designing the plan, a careful study was made first, of defense needs; second, of the placing of each individual in the position he might be best suited for and third, of the development of a plan of action to meet any emergency which might arise. The plan calls for assembly of every employee at a given point at the sound of the air raid warning or upon notice by telephone or messenger. Since it may be necessary for many employees to travel by foot, three assembly points have been designated and communication between these points has been arranged to include auxiliary messenger service which will function in the event telephone service is interrupted.

To insure orders being transmitted with a minimum of delay the phones of the company and of the key men of the organization have been set up and marked by the telephone company as emergency phones. During an emergency, calls on these phones will be given preference.

The organization consists of two major divisions, the repair division which will handle all repairs of damage to the distribution system and a customers' service division which will answer emergencies involving customers. These divisions are supplemented by regular repair crews, guards and watchmen, transportation and supply groups, necessary scouts and runners and first aid crews. These groups are controlled through dispatchers by the director who will take direct charge during an emergency.

Emergency tool boxes have been fitted up and include every tool and piece of equipment which might be needed to make repairs where damage has occurred. This equipment includes, in addition to wrenches, cutters, gas bags, tapping machines and other usual repair tools, such equipment as portable compressors with air tools, welding outfits, power water pumps, motor generator with flood lights, asbestos suits, gas masks, life belts and inhalators. There are also plenty of safety devices such as red flags, barricades, road torches as well as rubber boots and raincoats for the crew members.

A complete stock of emergency repair materials normally kept on hand has been increased to meet the extraordinary demand that may exist during an emergency.

### Employee Training

Training of all members of the emergency organization has been under way for some time. The repair crews have been given special instruction in making quick emergency repairs and have been given a great deal of practice in handling gas fires of all kinds. Every employee, including office employees, has been schooled in turning off and turning on meters, checking for leakage, turning off and turning on all gas appliances and handling emergencies in the customers' homes.

First aid classes have been conducted for both male and female em-

*Emergency material and tools of the Mobile Gas Service Corporation. Note the specially constructed tool box that is ready at all times to be shifted to a truck and dispatched to point of trouble. Emmett Rouse, superintendent of construction, is standing in the asbestos suit*

*The first picture shows a practice drill in extinguishing a high pressure pipe line on fire. The next scene is the main regulator station enclosed by a cyclone fence to prevent sabotage and keep out strangers. In the picture are E. O. Werba, assistant manager, and Emmett Rouse, superintendent of construction*

ployees, the latter being used to make up regular first aid teams. While training is about completed it is planned that classes and drills will be continued to assure the readiness of the organization when it is needed

As is usually true of effective plans of action our plan is carefully thought out and all complicated details have been eliminated. On advance (yellow) warning of a raid the key men of the organization take their positions, check equipment, plans, etc., and stand by for subsequent warning. All other employees and those assigned by civilian defense continue with their normal duties until the last (red) warning is received. All members of the organization then proceed to their assigned posts and stand by for orders. The three assembly points previously mentioned not only permit more prompt assembly of employees and others but will prove advantageous in that the personnel, being decentralized, will be nearer the point of emergency and, in the event of damage at an assembly point, fewer casualties will result.

### Damage Scouts Sent Out

On notice of damage scouts are immediately dispatched and survey the situation. If the damage is of a minor nature or is easily repaired they do the necessary work. If the damage is such that they cannot handle it promptly they immediately report the incident in detail and necessary repair crews are dispatched to the scene. Trucks and equipment are sent from headquarters and crews are detailed from headquarters or from the assembly point nearest the damage. All trucks have been given an emergency rating and plans have been worked out with the city to insure against any delay in moving through the city streets.

Damage which may occur in homes is taken care of by the customers' service division by dispatching men from the nearest assembly point. Permanent repairs will not be made during a raid but meters will be turned off or gas will be otherwise stopped where damage has occurred and permanent repairs will be made after the all clear is sounded. This division will also take over the turning on of customers' meters and appliances in areas where, due to severe damage, it has been necessary to interrupt gas service.

Plans such as this one worked out in Mobile are essential, not only to correct damage which may occur to the company's system or to gas installations in the customer's home but are necessary to the protection of life and to the maintenance of morale and the defeat of the object of raids on civilian population.

*Window of regulator station at the gas plant protected by a special screen to keep anyone from entering or throwing inflammable material into the building*

## Films Teach Supervisors

SOUND-SLIDE films make supervisors sit up and take notice. That is the experience of plant operation executives who are using the series of twelve such films prepared in consultation with the National Association of Manufacturers for use in supervisor training.

These films provide a welcome change from the conventional group conferences and lectures, are thus able to put new life into training programs. By dramatizing the situations met daily by every type of supervisor; by clarifying the relationships of these men with each other, with their supervisors, and with subordinates, they serve as a springboard from which to plunge into the discussion phases of any meeting.

The twelve films cover: The Supervisor as a Leader, Handling Grievances, How to Reprimand, Letting Men Know Where They Stand, The Supervisor as an Executive, the Supervisor as a Teacher, the Supervisor's Responsibility for a Safety Program, Showing the Supervisor How to Install a Safety Plan, How to Teach a Job, Inducting New Men, and Handling Different Types of people.

They may be fitted into whatever type of supervisory training program a plant has in operation; they may be used for intensive discussion groups or for more casual meetings. Although the titles are specific, much ground is covered.

With each film there is a discussion manual for the leader, showing how to get the most from the discussion which precedes and follows the showing of the film.

Over 600 companies are using this material, many utilities being among the list —gas, water, telephone and electric companies.

The Vocafilm Corporation of 424 Madison Avenue, New York, has representatives all over the country who will preview these, without charge or obligation, to any group of executives who are interested in supervisory conferences.

U.S. NEEDS US STRONG
EAT NUTRITIONAL FOOD
Follow these Rules for Victory Gas Cooking and help win the war in your kitchen!
Buy U.S. Savings Bonds and Stamps
VEGETABLES and your Victory Gas Cooking
U.S. NEEDS U.S. STRONG
EAT NUTRITIONAL FOOD

*Displays developed for gas company use by the Bishop Publishing Company. Note the reproduction of the government's national nutrition chart and emphasis on victory gas cooking. These displays are especially timely in supporting the gas cooperative advertising campaign*

# Help Win the War in Your Kitchen

WHEN discouraging reports on the health of prospects for Uncle Sam's services galvanized the nation into action on the "home" front, the government's national nutrition program was inaugurated to make America strong. Foremost among the industries to support this program was the gas industry which directed its national advertising program into government nutrition channels (see April A. G. A. MONTHLY, page 141) and launched its home service organization into wholehearted cooperative activities. Now comes the Bishop Publishing Co., 155 East Superior Street, Chicago, with displays for gas company use which reproduce the government's food chart and further augment the gas industry's national advertising campaign.

**Displays Fit New Trend**

These displays fit in with the trend of new forces which are currently attracting all manner of attention. Together with other promotional campaigns, this advertising is directing homemakers to the essential elements of a victory program. Such a program as far as the domestic phase of the gas industry is concerned is well stated by Glenn A. Bishop as follows:

"It will teach customers to appreciate and take care of the gas appliances they now have. It will teach them how to conserve food, fuel, time, tires and gas, which will release funds for purchasing War Savings Bonds and Stamps. It will teach them to carry out consumers' pledges, to waste nothing. It will teach them how better nutrition will help in building a stronger nation; so that we can take it on the chin and come up for more; so that regardless of our activities in our all-out effort to bring victory, we can all do a better job, more quickly."

The displays developed by Mr. Bishop's company include material approved, step by step, by nutritionists in the Office of Defense Health and Welfare Services and carry the official insignia "U. S. Needs US Strong."

## Salvage Program Saves Tons of Metals

FIFTY-SIX tons of iron, steel, lead, brass, paper and other critical materials were scrapped by The Brooklyn Union Gas Company during March in an all-out campaign to release for war uses worn-out or unused equipment.

Materials scrapped by the Brooklyn utility in that month included 27 tons of iron, 21 tons of steel, 900 pounds of brass, 575 pounds of lead, 185 pounds of mixed brass and lead, 40 old storage batteries, 3,300 pounds of obsolete tabulating cards, 4,400 pounds of obsolete records and 4,800 pounds of waste paper.

To facilitate the prompt disposal of all scrap and the conservation of all critical materials, the company early this year appointed a Conservation Officer for each of its operating departments and divisions and charged him with the responsibility for effecting rigid economy in the materials used.

Typical of the manner in which the campaign is achieving results is the development of a process which promises to enable the company to recover solder from meters which are to be scrapped. The process is still in an experimental stage, but in test runs the company has recovered more than two pounds of solder per meter. Since solder normally consists of 50% tin and 50% lead, and since tin is one of the more sorely needed materials, this one development represents an important contribution to the war effort.

## Care and Correct Use of Gas Equipment

A NEW booklet on the care and correct use of the gas equipment in the kitchen as a patriotic measure has been released by the Home Service Committee of the American Gas Association and has been given wide distribution throughout the gas industry. It is entitled "Uncle Sam Wants It to Last."

While it was set up as a nucleus of material that gas companies could adapt in their own way for distribution to consumers, a large number of companies have ordered copies of it "as is" so a new price is quoted:

Copies from 1 to 500—10¢
Copies above 500—5¢

The manager of a large gas company writes as follows: "Uncle Sam Wants It to Last, is a 'ten strike.' Unless I miss my guess our first order for 500 copies is just practice—I can visualize thousands more. The gas industry should recognize a good job done."

A Washington agency representative says: "This booklet is the type of thing that is needed at this time and I am sure it will have many uses."

## Industrial Sales Up

INDUSTRIAL gas sales of The United Gas Improvement Company and its subsidiaries increased 35 per cent in 1941 over the previous year, the company's annual report points out. The increase is credited to heavy industry activity.

*Six seals which early Brooklyn and Queens gas companies once used to seal official documents were among 56 tons of critical materials which The Brooklyn Union Gas Company has contributed in Brooklyn's Spring House-Cleaning Week campaign. Above President Clifford E. Paige is presenting the seals to Mrs. Harry H. Tracey, co-chairman of the Brooklyn Salvage Committee, which is sponsoring the drive*

# Home Volunteer . . . *Movement to Aid Conservation and Nutrition Program*

A HOME VOLUNTEER movement which gas companies throughout the country may utilize to assist homemakers in their communities to cooperate effectively and intelligently with the government's consumer conservation plan and its national nutrition program, has just been launched.

The movement, which has gas companies of the nation as the energizing force behind it, will give individual gas companies an opportunity to use their trained personnel, their special facilities and their experience in the fields of foods and nutrition, as well as in general home conservation.

Servel, Inc., at the suggestion of a number of gas companies, has developed the proposed program, with the guidance and advice of government officials and nutrition experts. Complete plans of the Home Volunteer movement are now available in portfolio form to all interested gas companies.

### Consumer Information Stations

The program hinges first, on the establishment in the gas company of a Consumer Information Station, for the distribution of materials offered to promote consumer interest and action in the conservation and nutrition programs.

The next step is to obtain signatures to the consumer pledge. (This is the "Consumer's Victory Pledge" issued by the Office of Price Administration under the direction of Administrator Henderson and reads as follows:—"As a consumer in the total defense of democracy, I will do my part to make my home, my community, and my country ready, efficient, and strong. I will buy carefully; I will take good care of the things I have; and I will waste nothing.")

Each consumer who signs the pledge gets a button to signify that she has enlisted in the Home Volunteer movement. She will also receive a pocket identification card, on the back of which is written a simple version of the Consumer's Creed, and entitling her to the gas company's personal consultation service. Major material in the Home Volunteer movement to aid consumers in both the conservation and nutrition programs are the "Home Volunteer's Defense Manual" and the "Nutrition Guide and Meal Planner."

### Defense Manual

The defense manual is the basic piece in the consumer conservation plan. It is designed as the wartime "bible" for housewives who are mobilizing their homes in accordance with the government's recommendations. The material in this manual gives the consumer the information and food service which will enable her to fulfill her pledge. Of especial value right now is the section outlining recommended procedure in keeping gas appliances in good working order, to insure longer, more satisfactory service.

The Nutrition Guide and Meal Planner contains menus, recipes, shopping lists, and basic information of a practical nature on food and nutrition.

To help gas companies bring the Home Volunteer movement to the attention of their customers, the consumer service division of Servel has prepared and offers the following service and materials:

Newspaper Advertising: For use in local newspapers, Servel will furnish complete mat services on the Home Volunteer movement. These advertisements will be keyed for announcing the Nutrition Guide, The Home Volunteer's Defense Manual, and other materials.

Radio Advertising: Radio scripts are also being provided on the Home Volunteer movement for use in spot announcements on local stations.

Direct Mail: A gas bill enclosure has been prepared for mailing with customers' monthly statements.

Consumer Information Station Display: A colorful desk display for the Consumer Information Station in the gas company office has been prepared and is offered for immediate use.

The gas industry has been characterized by government officials as the first channel to come forward with a complete program interpreting the government's nutrition and conservation programs to homemakers and showing them how to put them into effect.

Thus, its Home Volunteer movement fills the gap that has existed between the recommendations emanating from Washington, and their application in the home. The government, it is pointed out, has set up programs and plans, but has neither trained personnel nor the facilities with which to put them completely into effect. It needs, and is asking for assistance from local agencies.

## Cooking Tips Given

SINCE gas ranges and their fuel are more valuable than ever now, Kathleen Robertson, *McCall's Magazine* appliance editor, and Hulda Ungericht, home service director of the Ohio Fuel Gas Company, have collaborated on a feature article in the May issue of *McCall's* that stresses the efficiency of gas ranges. The article lists three steps in vegetable cooking that save gas and retain the valuable vitamins and minerals.

## W.P.B. Freezes Sale of Gas Appliances

IN order to prevent the dissipation of existing plumbing and heating equipment stocks for non-defense building, modernization, or unnecessary replacements, the War Production Board on April 16 froze all such stocks, except for retail sales of $5.00 or less, or for any sale on an A-10 or better preference rating.

The order (L-79) covers all new plumbing and heating equipment, including any equipment, fixture, fitting, pipe, or accessory of a type used in or connected to a water, sewer, or gas system; or any primary heating unit or accessory designed to provide building warmth. This definition includes all types of gas appliances, residential, industrial or commercial.

# Radiant Gas Burners . . . *Use and Development in Industrial Furnace Design*

By Frederic O. Hess

*President, The Selas Company*
*Philadelphia, Pa.*

*F. O. Hess*

SINCE mufflelless radiant-cup gas firing was developed only five years ago, production men in the metal industries and other fields have been inquiring about the fundamental differences between this new concept of process heating and conventional firing methods.

Industry has answered—through several hundred installations in surprisingly diverse fields. As a result, we have now seen proved in production many of the advantages of direct radiant gas firing which were heretofore only reasonable theory. Also we have discovered in service several beneficial peculiarities of radiant gas firing which we never predicted, as well as limitations in certain classes of work. My purpose now is to summarize and group some of these experiences—in the hope that you may be better able to make possible improvements in your own field.

### First Applied to Paint

Direct radiant firing by gas was first applied by the paint and varnish industry. Varnish production men had complained of spotty heating and slow heating—causing short pot life, difficult control and carbonization within the kettle. Our first attempts at direct radiant pot heating to solve these problems held promise. Ultimately we developed a satisfactory construction, differing only slightly from that now used. (Figure 1.)

In brief, gas-air mixture burns from a multiplicity of radial slots (in a refractory tip) along and in contact with the surface of a refractory cup designed to follow the natural sweep of the individual flames. Thus the cup surface becomes highly incandescent, so that it (1) constitutes an effective radiant energy source of considerable area, (2) accelerates (or "catalyzes") the gas-air reaction so greatly that surprisingly high rates of heat liberation in a small space are achieved, and (3) insures complete combustion of fuel before any gases pass beyond the face of the cup into the work chamber. The cup shape helps resist furnace wall stresses, and causes the products of combustion to curl back into the center of the cup and dissipate their velocity or "blast," before passing into the work zone. The limitations on cup surface temperatures

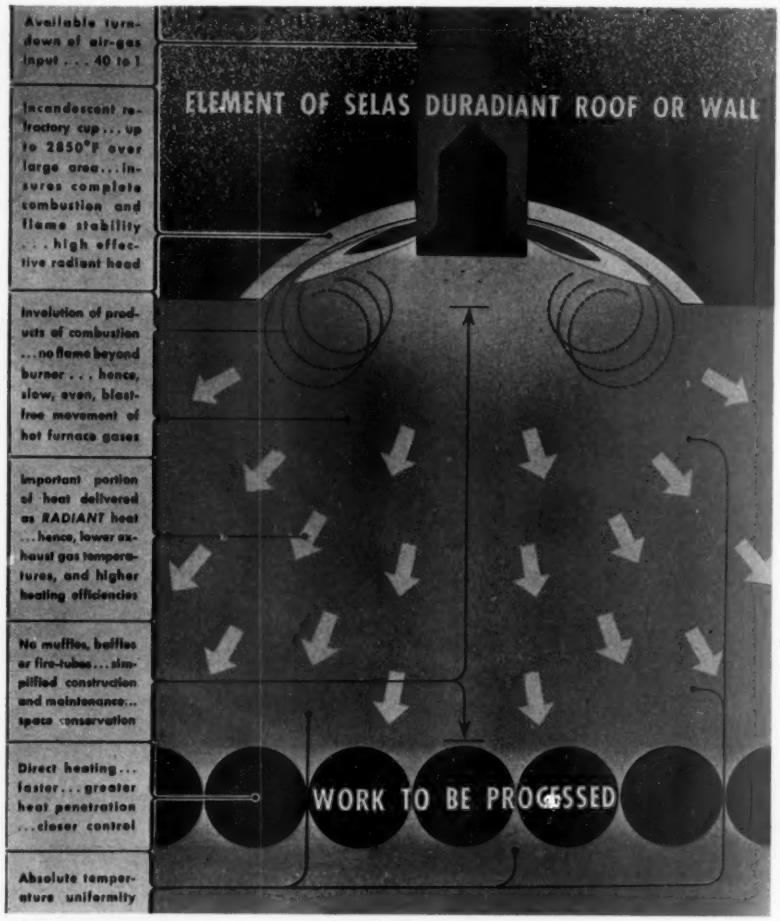

Available turn-down of air-gas input . . . 40 to 1
Incandescent refractory cup . . . up to 2850°F over large area . . . insures complete combustion and flame stability . . . high effective radiant heat
Involution of products of combustion . . . no flame beyond burner . . . hence, slow, even, blast-free movement of hot furnace gases
Important portion of heat delivered as RADIANT heat . . . hence, lower exhaust gas temperatures, and higher heating efficiencies
No muffles, baffles or fire-tubes . . . simplified construction and maintenance . . . space conservation
Direct heating . . . faster . . . greater heat penetration . . . closer control
Absolute temperature uniformity
ELEMENT OF SELAS DURADIANT ROOF OR WALL
WORK TO BE PROCESSED

*Figure 1. Diagrammatic representation of direct radiant gas burner and the manner in which it operates. Arrows represent radiated heat component of output—light gray tone represents convected heat component. In practice, a number of such burners stud the furnace wall, roof or shell in a planned pattern to establish the heat distribution desired*

Excerpts from an address before American Society for Metals, York-Lancaster-Harrisburg Chapter, York, Pa.

attainable seem only to be flame temperature and what the refractory can stand.

The net result of this radical combustion technique is an efficient source of radiant heat plus the convected heat carried in products of combustion which do not "blast" or "channel." Flame impingement is eliminated. Combustion is complete because the air-gas reaction is carried to its end-point on a surface as hot as 3200° F.* in some designs. Heat transfer is extremely rapid because of the radiant character of much of the heat liberated and the fact that the "radiant head," or temperature difference between radiant-energy-source (cup) and radiant-energy-receiver (work), is unusually high.† These independently controllable radiant energy sources can be arranged in almost any pattern and number over any furnace roof, wall or shell, thus achieving, large radiant surfaces (some up to 325 feet in length) capable of heat output adjustment at any point.

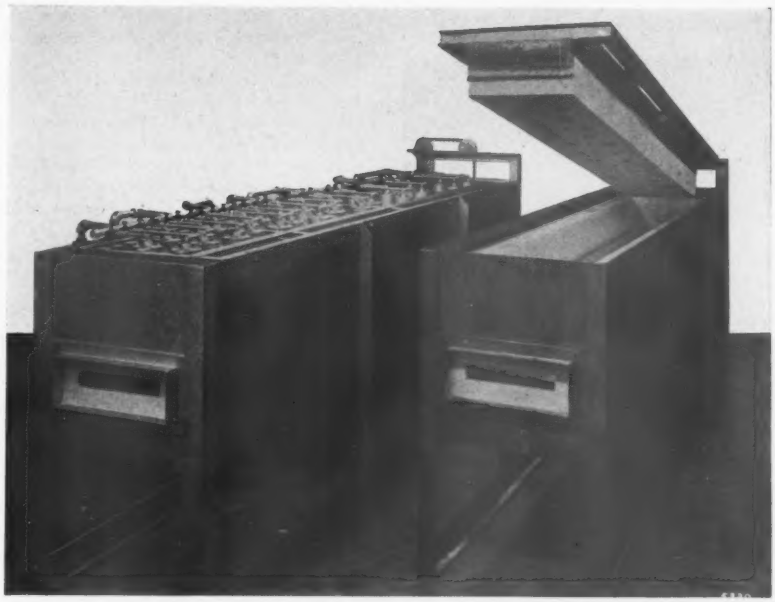


*Figure 2. Two small radiant-roof gas furnaces for a New England manufacturer who will continuously anneal strip and wire therein. Unit on right shows Duradiant-rood (of 24 staggered burners) being lowered into position. Roof on unit on left has already been set in and manifolded for "zone" control*

### A. G. A. Research

The success of the direct gas-fired muffle-less bisque firing research project, sponsored by the American Gas Association Committee on Industrial Gas Research in cooperation with the Lenox Potteries, was made possible by the development of the radiant cup method of high temperature heat application.

One practical benefit has been elimination of the "flywheel" effect in furnace firing. With conventional methods, where the entire furnace chamber is brought to heat and the furnace walls themselves become the heat source, one cannot suddenly change gas inputs and expect sudden drops or rises in furnace temperature. Even with the furnace walls of the best insulating refractories this heat inertia, or "flywheel" effect, cannot be avoided. But where the radiant burner cups do the heating, and the furnace walls and working chamber are not the predominant heat source, adjustments can be nearly instantaneous. Because radiant heat transfer is proportional to the difference of the fourth powers of the emitting and receiving temperatures, very slight adjustments in radiant burner cup-temperatures are immediately evidenced in piece heating rates.

In one continuous baking operation at 400° F. the burner faces are at about 2000° F. The cups of the burners only are incandescent. Adjustments in burner input immediately change the "radiant head," and, consequently, temperatures may be cycled almost as rapidly as the thermocouples can react and the controls take hold.

Possibly the most striking accomplishments have been in applications where precise heat distributions are vital. Furnaces used nearby in Harrisburg with direct-firing multiple-burner radiant roofs have, for four years, been achieving absolute heating uniformity on oxygen cylinders (now aerial bomb casings) in which the metal mass of the work rolling through the furnace is many times greater near one sidewall where heat losses are greatest. Therefore, the rows of burners along this wall are simply permanently set for operation at higher rates, and the 1650° F. working temperature is maintained within plus or minus 10° F. at all points.

Vertical heating towers as high as 20 feet are performing uniformly within 5° F. (tested every 2 feet over the entire shell) in both gun and chemical production—despite the stratifications or stack effects which would make it virtually impossible to insure perfect vertical heat distributions with normal firing methods. Unequalizing effects are compensated for by radiant burner (1) spacing, (2) sizing or (3) individual permanent fuel-flow adjustments between the automatic "zone" or "gang" controls and the individual burners.

Several radiant-roof wire annealing furnaces, (Figure 2) contain 40 or 50 parallel atmosphere tubes in one horizontal plane, and operate up to 2200° F. on nickel-chromium and stainless materials. Roof burner adjustments across the furnace assure uniform temperatures on all tubes. Burner adjustments along the furnace length provide for greater heat inputs at the entrance end where cold stock streams in. In strip annealing, controllable radiant gas walls allow manipulations of heating rates along the strip edges, to avoid the edge waviness so familiar in strip mills.

The largest scale application of direct radiant firing is in the complex continuous heat treatment of cast tank hulls, weighing 25,000 lbs. each. Four of the furnaces now being designed

(Continued on page 200)

* Researches show that it is impossible to get truly complete combustion if gases are cooled to 2200° F. or less before reaction has proceeded to the end-point.

† Remember the "difference of the fourth powers of the temperatures."

## Wins Navy "E" Award

*Rear Admiral John Downes presenting the coveted Navy "E" award to W. J. Schoenberger, president, The W. J. Schoenberger Co., in recognition of the company's outstanding record in production of ordnance material. In peacetime the company manufactures valves, fittings and burners for gas appliances*

## Bomb Crater Clamp

GAS and water companies in danger areas will be interested in a new device for quickly repairing mains where a gap has been blown out by explosion. The new clamp, known as the Skinner-Seal bomb crater clamp, makes a tight, lasting connection between the ends of the broken main and a random piece of steel pipe cut to appropriate length, to fill the space.

Developed by the M. B. Skinner Company, South Bend, Indiana, at the request of a prominent West coast gas company, the new adapter makes use of the company's standard bell joint clamp parts to splice a proper length of steel pipe to fill in the gap in broken main, with minimum delay.

## Rationing of Fuel in Britain Planned

THE British government has decided to ration fuel, including coal, coke, gas, electricity and paraffin, starting in June, Hugh Dalton, the President of the Board of Trade, told the House of Commons April 21, according to a *New York Times* dispatch.

The announcement immediately raised a storm of criticism. Foreign Secretary Anthony Eden, as acting Leader of the House, promised that the government would consider requests for debate.

Few details in the government's plan were given but it was said that it would be on a "points" system, by which each household and each person in Great Britain would receive a certain number of basic units over a certain period of time and a person might use his units as he saw fit during the period in question.

Rationing, expected to reduce domestic consumption of coal by about 10,000,000 tons yearly, will be on a basis of needs of each household without any reference to former consumption, it was said. Coal, coke and paraffin will be rationed starting about June 1, and use of gas and electricity will be rationed on the last meter reading before Aug. 15.

## Put Air-Raid Tags on Gas Meters

MORE than 2,000 voluntary workers, all gas company employees, began April 18 the task of placing air-raid instruction tags on the gas meters in the 210,000 one- and two-family dwellings served by The Brooklyn Union Gas Company. The tags give instructions for turning on the gas when meters have been turned off during an air raid.

## Tin Content in Solder

CONSERVATION Order M-43-a of the War Production Board, as amended March 17, provides that prior to May 1 solder may have a tin content of 38% by weight. After that the amount is reduced to 30%.

Solder is essential in the repair of gas meters. Both before and since the issuance of the order, gas companies have been experimenting in the use of substitutes for tin content; for example, silver. The results so far have not been satisfactory.

The American Gas Association has held several meetings to discuss the W.P.B. order and its effect on the gas companies. For the benefit of the industry, gas companies are requested to keep the Association informed of methods they are practicing or considering.

## "The Flow Line" Makes Its Bow

FIRST issue of *The Flow Line*, a magazine of measurement and control, dedicated to "those who make the wheels go 'round in the gas, oil and process industries" made its appearance last month with publication of the March-April issue.

An attractively printed, ably edited magazine published by the Merco Nordstrom Valve Company and the Pittsburgh Equitable Meter Company, the maiden issue contains an opening article on "Our War Work" by Col. W. F. Rockwell, president, and interesting data on various measurement and pipe line activities. Of particular interest to the gas industry is an article by Allen MacLean on "Pressure Regulation."

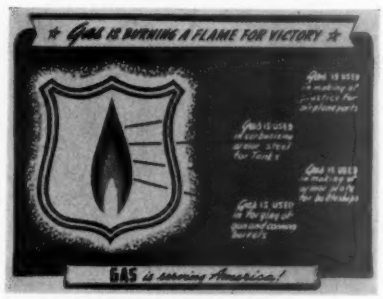
The editor is R. S. Reed, Jr., and the publication office is located at 400 Lexington Ave., Pittsburgh, Pa.

## Gas Irons from Manila

A NEW type gas iron discovered in Switzerland a few years ago by the industrial engineer of the Manila Gas Corporation in the Philippine Islands and since sold by the thousands to Manila residents is being offered for sale in this country. When the war started here there were some 400 irons in transit to Manila and another 400 in Philadelphia where they were manufactured by the Pennsylvania Electro Plating Company.

Described as a 6-lb. modern safety gas iron complete with 6 feet of metal hose and stand, these irons are offered for sale at $3.40 each, F.O.B., Philadelphia. Orders may be placed with L. N. Boisen, sponsor for the Manila company, Stone & Webster Service Corp., 90 Broad St., New York, N. Y.

## Victory is Keynote of Display




*Shown here is one of a series of six displays developed for gas companies by Bozell & Jacobs, Inc., 1010 Hearst Square, Chicago, to tell the story of the gas industry's part in the war effort. Printed in red, white and blue colors, the displays are approximately 60 by 40 inches in size. Special features of this service are a lacquered wood base for displaying the units and a mat service which makes it possible for them to be tied in with newspaper advertising*

## Morale-Killers

MANY plants converted to war work have neglected to develop definite programs for maintaining employee goodwill and harmony, the Labor Relations Institute reported recently. It listed as morale-killers: inadequate grievance machinery, lack of recreational facilities, improper lighting and ventilation, inexperienced foremen and supervisors, haphazard policing of safety rules and devices, favoritism, failure to inform employees of company policies, indefinite shop rules, lack of efficient suggestion systems for employees' ideas on how to improve production and cut waste, failure to compliment employees on good work.

## Personnel Needed for War Service Jobs

THE United States Civil Service Commission, Washington, D. C., is seeking the cooperation of the gas industry in securing high-grade personnel for essential war jobs. The commission has undertaken a definite recruiting program to establish a reservoir of material on qualified candidates for all types of high-grade positions, including executive, administrative, technical, industrial and professional (except Law), for the purpose of supplying the needs of the war agencies.

Gas companies are asked to designate some of their officials in vice-president or general manager capacities to act as key source men in locating executive personnel from specialized fields. These men should be capable of referring persons for government positions paying salaries of $4600 per year and up. They should be available for consultation on recruiting sources through correspondence or by personal contact with Civil Service Commission officials from the several district offices.

Volunteers who will cooperate in this program may write to L. A. Moyer, executive director and chief examiner, United States Civil Service Commission, Washington, D. C., or get in touch with district commission offices.

## Library Donations to Gas Institute

TWO important donations have been received by the library of the Institute of Gas Technology, Chicago. They are collections of gas periodicals and proceedings of gas association meetings, donated by F. W. Stone, Ashtabula, O., and B. L. Sites, Chicago.

Mr. Stone, now retired, was a pioneer in the gas industry in Ohio. Mr. Sites is an alumnus of Illinois Institute of Technology, with which the Gas Institute is affiliated.

The Stone collection includes approximately 300 volumes, including some periodicals and reports dating from 55 years ago. In includes publications by the American Gas Association, Chemical Technology, and the American Gas Light Association and affiliated groups, in addition to regular periodicals. The Sites donation includes volumes of Chemical Abstracts and the Journal of the American Chemical Society from 1911 to 1932.

## Wastebasket Reminder

STOP—don't destroy anything that can be used again." This reminder, projecting above every wastebasket in the Studebaker Administration Building and factory offices in South Bend, Ind., has resulted in unexpected savings of office supplies. The signs are mounted on twenty-one-inch sticks, which hoist them above the rims of wastebaskets. Signs cost less than 1 cent each, actually make workers save on supplies.—*Printers' Ink.*

*"I still maintain she was much better in 'Don't Waste Gas.'" (From* Punch, *London, Feb. 25)*

## Emergency Traveling Kitchen in Action

IF an enemy bomb or even an "act of God" should disrupt the gas pipe lines that serve Atlanta, Georgia, the gas company's repair crew would be there almost as soon as the damage occurred. So, too, would the emergency traveling kitchen shown here be on the spot, so that no time would be lost in speedily restoring gas service that has been guarded by the Atlanta Gas Light Company for the better part of a century.

The compact trailer, small enough to be drawn by a coupe, is a model of convenience and efficiency. It is equipped with two five-gallon vacuum containers for hot drinks, such as coffee or cocoa, and hot foods such as barbecued beans, soups, and stews. Drawers with separate compartments have been built in for mugs and bowls. There is ample space for bread, sandwiches, sugar, cream, spoons, etc.

On the back of the trailer are two built-in charcoal containers with additional containers for sterilizing dishes. If necessary, hot drinks could be prepared over the charcoal fire which has a flue to remove gases. The charcoal buckets are removable, so they may be used anywhere. The trailer carries 20 small sacks of charcoal.

According to Cephalie Lewis, home service director, it is planned to serve the food cooked in canteen classes from the traveling kitchen. This will give the crews actual experience with serving and handling the trailer as well as preparing food.

The traveling kitchen will be stocked with foods that will not spoil easily and that could be used in emergency feeding.

*The trim-looking trailer pictured above houses a fine piece of equipment that would be valuable in case of emergency breaks in gas pipe lines. Emergency crew men are shown sampling hot meals from the traveling kitchen.*

# Personal AND OTHERWISE

## Elected Comptroller

*O. H. Ritenour*

O. H. RITENOUR, assistant treasurer of the Washington Gas Light Company, Washington, D. C., since 1933, was elected comptroller of that company, at a meeting on March 25.

A native of Virginia, Mr. Ritenour attended the University of Virginia and received his B.C.S. degree from Southeastern University, Washington, D. C. He is a specialist in modern machine accounting methods and has been prominently identified with national accounting organizations.

Mr. Ritenour is coordinator of general accounting activities for the American Gas Association and was chairman of the Association's General Accounting Committee in 1941. He is a member of the Controllers Institute of America and president of the District of Columbia Control.

## To Instruct Defense Training Course

*Robert C. LeMay*

ROBERT C. LEMAY, industrial gas engineer, The Connecticut Light & Power Co., Waterbury, Conn., is conducting an industrial heating course known as the New Haven Defense Training Project. Mr. LeMay is chairman of the Industrial and Commercial Gas Section's Metal Treating and Metal Committee.

The course is conducted under the Engineering, Science and Management Defense Training Act of Congress and is directed from the Defense Training office at 15 Prospect Street, New Haven, Conn. It started February 18 in Waterbury and will be completed by July 1.

Twenty lectures will be given by Mr. LeMay and his associates, among them being Herbert Etter, Eclipse Fuel Engineering Co., A. V. Leudemann, Mears-Kane-Ofeldt, Inc., Herman Gehnrich, Gehnrich & Gehnrich, Oliver Pritchard, The Brooklyn Union Gas Co., T. F. Loughry, Surface Combustion Corp., and D. C. Sanford, The Bristol Co. A total of eighty men have enrolled for the course, representing twenty-seven New England manufacturing concerns.

## E. J. Mead Gets Atlanta Post

E. J. MEAD has been appointed vice-president of the Atlanta Gas Light Company and affiliated utilities, succeeding Eugene J. Stern who recently resigned to become president of the Scripto Manufacturing Company of Atlanta.

Mr. Mead resigned as president of the Roanoke Gas Company and its associated companies in Virginia and Tennessee to take his new position in Atlanta.

A prominent figure in southern gas circles, Mr. Stern has been connected with the Atlanta Gas Light Company for the past ten years.

## Cowden Promoted

*Dave Cowden*

DAVE COWDEN, purchasing agent for Arkansas Louisiana Gas Company, Arkansas Fuel Oil Company and Arkansas Pipeline Corporation for the last six years, has been promoted to head of the companies' service department with the title of service manager, according to an announcement made by D. W. Harris, vice-president and general manager of the Arkansas companies. Mr. Cowden, whose office is in Shreveport, succeeds J. Lucas.

As manager of the service department Mr. Cowden will have supervision over all telephone, automobile and truck transportation, purchasing and warehouse facilities of the Arkansas Natural companies, in all the properties.

## Cohn Elected President of Baltimore Company

*Charles M. Cohn*

CHARLES M. COHN was elected president of the Consolidated Gas Electric Light and Power Company of Baltimore at a directors' meeting March 26 following the resignation of Herbert A. Wagner as president. Mr. Wagner remains as chairman of the board. At the same meeting, William Schmidt, Jr., vice-president, was elected executive vice-president; Ralph L. Thomas, executive engineer, was named vice-president; and J. T. Wolfe was appointed assistant vice-president.

*Herbert A. Wagner*

The newly elected president, Mr. Cohn, has spent his entire business career with the Baltimore company and has long been a member of its board of directors and its executive committee. He has been successively secretary, vice-president, executive vice-president and now president. He is a graduate of Loyola College, Baltimore, and of the University of Maryland, School of Law. He has been active in the affairs of the American Gas Association and is a member of the executive board. He is a director of the Fidelity Trust Company, Baltimore, chairman of its Trust Committee, and is president of the Industrial Corporation, Baltimore.

Mr. Wagner's long career with the Baltimore company began in 1908 when he was employed as consulting engineer. He was elected vice-president in 1910 and president in 1915. In 1939, he was re-elected president and chairman of the board.

Mr. Wagner is a graduate of the Stevens Institute of Technology, of which he is a trustee, and in 1937 was awarded the honorary degree of Doctor of Engineering by the Johns Hopkins University. He is a director of a number of Baltimore institutions and chairman of the board of trustees of the Maryland Academy of Sciences.

## Heads War Fund Group

MAJOR T. J. STRICKLER, vice-president and general manager, Kansas City Gas Company, and last year's president of the American Gas Association, was elected president of the Kansas City War Chest Fund, Inc. at a meeting of the directors of the fund on March 27.

## Miller and Hornby Join Army

ROBERT W. MILLER, president, and Robert A. Hornby, vice-president, of Pacific Lighting Corporation, have been commissioned as Captain and Major, respectively, in the Army to serve on the headquarters staff of Major Gen. R. G. Cousins, commanding officer of the West Coast Air Corps Training Center. The headquarters are at Santa Ana, California, but their duties will take them to the many training fields of this command located in four states.

Mr. Miller and Mr. Hornby have been granted leaves of absence by the company under its policy of granting such leaves to all employees entering the armed forces. Their duties have been assumed by C. O. G. Miller, chairman of the board, and LeRoy M. Edwards, vice-president and general manager, Los Angeles. Mr. Miller reported for duty at the end of March and Mr. Hornby reported on April 11.

## J. R. Abrams To Direct Personnel Program

*James R. Abrams*

J. R. ABRAMS, formerly advertising director of the domestic gas range division of the Association of Gas Appliance and Equipment Manufacturers, has been appointed by the Weston Electrical Instrument Corp., Newark, N. J., to take charge of the company's industrial relations program. The Weston company, which manufactures precision instruments and gauges, is largely engaged in filling national defense contracts.

Mr. Abrams joined the A.G.A.E.M. in 1940 and did an outstanding job in the national promotion of Certified Performance gas ranges. His last CP sales portfolio, "Once Upon a Time . . . ", issued last Fall, attracted wide attention and was a prize winner in a national advertising competition.

Prior to joining the gas industry, Mr. Abrams was associated with Congoleum-Nairn, Inc.

## Heads Coal Division

APPOINTMENT of Robert H. Ridgway, for many years an authority on mineral economics and statistics, as chief of the Coal Economics Division of the Bureau of Mines, Department of the Interior, was announced recently by Dr. R. R. Sayers, director of the bureau. He succeeds F. M. Shore, who has been promoted to assistant chief of the bureau's Economics and Statistics Branch.

Mr. Ridgway is well acquainted with the practical problems of the coal industries having served for the past 14 years in the Economics and Statistics Branch of the Bureau of Mines.

## G. S. Harris Retires; Maloney Promoted

DANIEL E. MALONEY has been promoted to agent of the Cleveland division of The East Ohio Gas Company, succeeding George S. Harris, who retired on March 20 after 36 years of service with the company. Walter S. Frick, who has been with the company 24 years, was appointed assistant agent.

Mr. Harris' retirement brought to a close an outstanding record of service and achievement. He has long been a member of the Accounting Section of the American Gas Association and has made many valuable contributions to its work. For a number of years, he was a member of the Customer Accounting Committee and, is currently a member of the Customer Relations Committee.

Mr. Maloney is a native Clevelander who joined The East Ohio Gas Company in 1916 as assistant to the general superintendent. Except for a short time during the first World War, he has been in the rate department, serving as purchasing agent, cashier of the commercial office, and assistant agent. He served in the 135th Field Artillery for 13 years, holding the rank of Captain—Operations Officer. His new position includes directing the preparation of the bills for the entire company, serving 64 cities and communities in Ohio.

## Joins Air Corps

H. STUART JOHNSTON, sales manager, Florida Public Service Co., Orlando, Fla., was called to duty with the Air Corps at Macon, Ga., April 22. He holds the rank of Captain and will be attached to the flying command.

Capt. Johnston served with the marines in the last war. He is secretary-treasurer of the Gas Meters Association of Florida-Georgia.

Of six American companies which recently contracted to supply 157,000,000 lbs. of magnesium annually, five will use gas as a power source instead of electricity.

## CONVENTION CALENDAR

*MAY*

| | | |
|---|---|---|
| May | 4-7 | **A. G. A. Natural Gas Convention**<br>Roosevelt Hotel, New Orleans, La. |
| | 4-7 | **A. G. A. Distribution Conference**<br>Hotel St. Charles, New Orleans, La. |
| | 11-12 | **Indiana Gas Association**<br>Indianapolis, Ind. |
| | 11-12 | **Joint Accounting Conference**<br>Cleveland, Ohio |
| | 11-15 | **National Fire Protection Association**<br>Atlantic City, N. J. |
| | 13-15 | **Natural Gasoline Association of America**<br>Mayo Hotel, Tulsa, Okla. |
| | 18 | **Pennsylvania Gas Association**<br>Philadelphia, Pa. |
| | 18-19 | **Arkansas Utilities Association**<br>Hot Springs, Ark. |
| | 25-27 | **A. G. A. Production and Chemical Conference**<br>Pennsylvania Hotel, New York, N. Y. |

*JUNE*

| | | |
|---|---|---|
| June | 4-5 | **Canadian Gas Association**<br>Windsor Hotel, Montreal |
| | 8-11 | **American Society of Mechanical Engineers Semi-Annual Meeting**<br>Cleveland, Ohio |
| | 22-23 | **Public Utilities Advertising Association**<br>Commodore Hotel, New York |
| | 22-24 | **American Home Economics Association**<br>Hotel Statler, Boston, Mass. |
| | 22-26 | **American Society for Testing Materials Annual Meeting**<br>Chalfonte-Haddon Hall, Atlantic City, N. J. |

*SEPTEMBER*

| | | |
|---|---|---|
| Sept. | 28 | **Pacific Coast Gas Association**<br>San Francisco, Calif. |
| Sept. 29, 30, Oct. 1 | | **American Gas Association Annual Meeting**<br>San Francisco, Calif. |

*OCTOBER*

| | | |
|---|---|---|
| Oct. | 5-9 | **National Safety Congress and Exposition**<br>Chicago, Ill. |
| | 12-14 | **American Society of Mechanical Engineers**<br>Rochester, N. Y. |

# AFFILIATED ASSOCIATION *Activities*

## Mid-West Association Elects Officers

*H. K. Wrench*

H. K. WRENCH, president and general manager, Minneapolis Gas Light Co., Minneapolis, Minn., has been elected president of the Mid-West Gas Association for the 1942-1943 term. T. E. Rooke, George D. Roper Corp., Omaha, has been named first vice-president and C. A. Bland, Iowa Power & Light Co., Des Moines, second vice-president. R. B. Searing, Sioux City Gas and Electric Co., was re-elected treasurer.

New members of the executive council are: T. G. Kus, Omaha; J. C. Clarke, Fargo; Thomas L. Connor, Mason City; and John J. Burnett, Chicago.

The following affiliated representatives have been appointed: Manufacturers' Section—K. R. D. Wolfe, Marshalltown; Technical Section—Lester J. Eck, Minneapolis; Accounting Section—E. H. Vieregg, Grand Island; Residential Section—E. J. Boyer, Minneapolis; Industrial and Commercial Gas Section—E. E. Hahn, Cedar Rapids.

## Indiana Gas Association

INSIDE and outside views of the gas industry's responsibility in the war emergency period will divide attention at the annual meeting of the Indiana Gas Association in Indianapolis, May 11 and 12. H. Carl Wolf, president of the Atlanta Gas Light Company, a former head of the Indiana Association, will be a headliner, presenting an operating man's ideas about the handling of interruptions and emergencies due to sabotage or enemy attacks.

B. T. Franck, vice-president, Milwaukee Gas Light Company, will tell how to get and hold business in the face of war emergency restrictions. Service problems that are getting tougher with materials and personnel suffering war inroads, will be discussed by three well known Indiana operating men,—J. M. Pickford, Northern Indiana Public Service, of Hammond; and C. A. Peterson and J. M. McCaleb, Citizens Gas and Coke Utility, Indianapolis.

"If we run out of gas, what?" is the possibility to be discussed by Louis A. Kirch, production engineer, Public Service Co. of Indiana. President F. B. Culley, Southern Indiana Gas and Electric Co., Evansville, will introduce also a number of speakers from outside the industry, all of them representing public agencies which have some part in the regulation of utility affairs.

These will include Governor Henry F. Schricker, Clarence Jackson, who is head of the State Council of Defense; Albert Evans, Indiana priorities director for the WPB; Deans Potter and Sauvain, of Purdue and Indiana universities, respectively; Emmett Cox, of the Indiana Inspection Bureau, and others.

## Missouri Association of Public Utilities

D. W. SNYDER, JR., president of the Missouri Power & Light Company, Jefferson City, Mo., was elected president of the Missouri Association of Public Utilities at the annual business meeting of the Association in St. Louis, April 14 and 15. Mr. Snyder succeeds Ben C. Adams, of Kansas City, Mo., who has been president two years.

Other officers elected were: First vice-president, C. A. Semrad, St. Joseph, Mo.; second vice-president, J. F. Porter, Jr., Kansas City, Mo.; third vice-president, J. W. McAfee, St. Louis, Mo.

New members of the Executive Committee elected were: B. C. Adams, Kansas City, Mo.; Alfred Hirsh, St. Louis, Mo.; L. W. Helmreich, Jefferson City, Mo.; L. W. Laughlin, Springfield, Mo.

C. W. Kellogg, president of the Edison Electric Institute, New York City, who was to deliver an address on "Facing Our Problems," could not come, but sent Col. H. S. Bennion to read his paper. Hugh H. Clegg, assistant director, Federal Bureau of Investigation, Washington, D. C., spoke on "Utilities and Winning the War."

A defense and safety meeting, and annual dinner, was held on Tuesday evening, April 14. Hugh Stephens, vice-chairman of the Missouri State Defense Council, delivered an address on "Utilities and National Defense"; Oliver T. Remmers, lawyer, and past president of the St. Louis Safety Council, spoke on "A Quarter Century of Safety."

A safety playlet, "Safety Sam and Hap-hazard Harry," was presented by Owen A. Best and Harold Hamby, of the Arkansas-Missouri Power Corporation. The skit contained sufficient humor to hold interest, and put over the safety message in a new form.

Frank M. Roessing, director of public works, Pittsburgh, Pa., addressed the meeting on "Utility Conditions in England as Viewed by an Official Observer." Thomas N. Dysart, president of the St. Louis Chamber of Commerce, spoke on "The Home Front" at the luncheon at noon Wednesday closing the convention.

## Gas Institute Grants 13 Fellowships

THIRTEEN college senior students, picked in a nationwide selection, have accepted fellowships from the Institute of Gas Technology in Chicago, Harold Vagtborg, director, announced recently. Representing 11 colleges and eight states, these students will begin their work as fellows immediately upon graduation this spring. Classwork at the Institute will begin in September but the students will begin their training immediately this summer as employees in the gas industry.

The thirteen, their homes and schools are: Willard M. Dow, Edgewater, Colo., Colorado School of Mines; Roy C. Feber, Lincoln, Neb., University of Nebraska; Alan E. Florin, Chicago, Ill., Lawrence College; W. Madden Gregory, Nashville, Tenn., Vanderbilt University; William R. Johnston, Denver, Colo., University of Texas; Richard A. Nevill, Dallas, Texas, Texas A. & I.; Thomas L. Pelican, Craig, Colo., Colorado College; Richard A. Rall, Cedar Rapids, Iowa, Coe College; Leonard E. Savory, Denver, Colo., University of Denver; John W. Selph, Jr., Lawrenceburg, Tenn., Vanderbilt University; Frederick O. Sharp, Jr., Tulsa, Okla., University of Texas; Erwin R. Strong, Jr., Kingsville, Texas, Texas A. & I.; and Raymond Wynkoop, Jenkintown, Pa., Worcester Polytechnic Institute.

## Charles McLean Dies

CHARLES McLEAN, secretary-manager of The Key City Gas Company, Dubuque, Iowa, died April 12. He was 78 years old.

Mr. McLean was long prominent in Dubuque civic affairs and for many years was connected with the editorial departments of that city's newspapers. He was a twin brother of the late George McLean, his predecessor as secretary and general manager of the Key City Gas Company, who died Jan. 19, 1933.

He was an authority on taxation, as a result of which he served for some years as chief of the Estate Division of the Bureau of Internal Revenue for Iowa. He served as president of the local Chamber of Commerce and as chairman of many of its committees.

Accounting SECTION

LYMAN L. DYER, *Chairman*
L. A. MAYO, *Vice-Chairman*
O. W. BREWER, *Secretary*

# Gas and Electric Utilities Report on War Risk Insurance Practices

**Results of survey conducted by Reginald Fleming, Chairman, A. G. A. Insurance Committee, for the American Gas Association and the Edison Electric Institute.**

UNDER date of March 5, 1942, a questionnaire on insurance was sent to a representative list of gas and electric utility companies jointly by the Insurance Committees of the American Gas Association and the Edison Electric Institute. The purpose of this questionnaire was to determine the practices with respect to carrying *certain forms* of Direct Damage insurance. It was not the purpose to find out all of the kinds of insurances carried, but only those which might be directly concerned with loss of, or damage to the physical properties, caused by circumstances arising out of the present unusual conditions—such as War Risk, Riot and Civil Commotion, Malicious Mischief and Vandalism.

Replies have been received from 180 companies conducting operations as follows:

| *Class of Operations* | *Companies Having* | | |
|---|---|---|---|
| | *Less Than 100,000 Meters* | *More Than 100,000 Meters** | *Total* |
| Gas Operations only | 15 | 63 | 78 |
| Electric Operations only | 2 | 53 | 55 |
| Combination Gas and Electric Operations | 5 | 42 | 47 |
| Total | 22 | 158 | 180 |

*Includes individual companies of less than 100,000 meters but which are part of a system aggregating more than 100,000 meters.

Some of the companies do other than a gas and electric business, but such other operations are not reflected in the analysis.

Exhibits giving in detail the information received are included in this report as follows:

*Exhibit A.* A brief description of the kinds of insurance encompassed by the questionnaire

*Exhibit B.* A listing of the states showing the geographical classification

*Exhibit C.* The several classes of direct damage insurance carried by the reporting companies

*Exhibit D.* The combinations of the several classes of direct damage insurance carried by the reporting companies

Hereunder are given some pertinent statements made by the reporting companies:

(1) "In regard to carrying war risk insurance we feel that there is no company of sufficient financial strength to carry this insurance."

(2) "We are waiting with interest the progress of the legislation in Congress covering war risk insurance, although I am not certain that we will be in the market when the insurance becomes available. We have given consideration to adding riot and civil commotion with malicious mischief and vandalism coverage to our fire policies, but to date we have not made the purchase."

(3) "In reference to the second paragraph asking for an opinion as to the necessity or desirability of carrying war risk or civil commotion insurance, I would advise that this matter is now before our executive committee for consideration."

(4) (Canadian Company) "Being located in the center of war activities on the Atlantic Coast, we think that war risk insurance is very necessary protection and the Dominion Government is now making some study of the matter."

(5) "We do not have war risk and bombardment insurance and are awaiting with much interest the development of the Federal Government plan. . . . . We have the extended coverage endorsement which includes riot and civil commotion. . . . . We have malicious mischief and sabotage coverage on two locations which are open to the public. . . . . Our reason for not carrying this protection elsewhere is the character of the employee personnel; nearly all employees have long service records and our labor turnover is low."

(6) "It seemed essential to us that we should obtain the necessary coverage against any loss of this nature (riot and malicious damage including sabotage and war and bombardment), particularly since our plant is situated on the Coast, and due to existing world conditions."

(7) "In connection with malicious mischief and vandalism insurance, we do not have this type of coverage on any of our policies. We have discussed this coverage with our local insurance agent and they have been unable to explain just what type of loss would come under coverage of this type."

(8) "Our present attitude with respect to war risk insurance is that present costs would not justify it under existing conditions. We consider that we are properly covered at this time and unless the situation materially changes, we do not expect to make any adjustment to such insurance as we now carry.

(9) "In our opinion what is done in the matter of war risk insurance should be determined on the basis of whatever governmental arrangements are made. We do not consider that there is any special need for riot and civil commotion coverage other than that provided in the extended form coverage."

(10) "After thoroughly investigating war, bombardment, malicious mischief and sabotage coverage it was concluded that such coverage was too expensive and, with the exception of three or four of the largest concentrations of value, it would be a pure gamble to speculate as to what location should be covered. It was therefore concluded that continuity of the gas service was more important than recovery of the dollar value of possible damage which would be small excepting under devastating attacks."

(11) "We do not carry any war risk insurance. It is our opinion that the greatest danger lies in the sabotage, and that the dangers from war are not commensurate with the cost of war risk insurance."

(12) With respect to war risk insurance. . . . . "A private carrier has no experience on which to base such rates and, if it covers, must charge a rate which would appear prohibitive to

## EXHIBIT C—SEVERAL CLASSES OF DIRECT DAMAGE INSURANCE CARRIED BY REPORTING COMPANIES

| Kinds of Insurance Carried | Atlantic Seaboard | | | South Central | | | North Central | | | Plateau | | | Pacific Coast | | | Canada | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total |
| Fire | 8 | 61 | 69 | 7 | 27 | 34 | 2 | 42 | 44 | 0 | 8 | 8 | 4 | 11 | 15 | 1 | 9 | 10 | 22 | 158 | 180 |
| Extended Cover | 6 | 15 | 21 | 7 | 3 | 10 | 1 | 11 | 12 | 0 | 0 | 0 | 3 | 4 | 7 | 0 | 0 | 0 | 17 | 33 | 50 |
| Riot & Civil Commotion including Malicious Mischief and Vandalism | 4 | 39 | 43 | 1 | 20 | 21 | 1 | 27 | 28 | 0 | 5 | 5 | 4 | 7 | 11 | 1 | 7 | 8 | 11 | 105 | 116 |
| Riot & Civil Commotion without Malicious Mischief and Vandalism | 2 | 9 | 11 | 1 | 3 | 4 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 17 | 21 |
| War Risk | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 2 | 4 |

*Including individual companies of less than 100,000 meters but which are part of a system aggregating 100,000 or more meters.

## EXHIBIT D—THE COMBINATION OF THE SEVERAL CLASSES OF DIRECT DAMAGE INSURANCE CARRIED BY REPORTING COMPANIES

| Kinds of Insurance Carried | Atlantic Seaboard | | | South Central | | | North Central | | | Plateau | | | Pacific Coast | | | Canada | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total | Less than 100,000 Meters | More than 100,000 Meters* | Total |
| I (a) Fire Insurance Only | 1 | 10 | 11 | 0 | 4 | 4 | 0 | 7 | 7 | 0 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 26 | 27 |
| II (a) Fire Insurance (b) Extended Cover | 1 | 3 | 4 | 5 | 0 | 5 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 6 | 10 | 16 |
| III (a) Fire Insurance (b) Extended Cover (c) Riot & Civil Commotion including Malicious Mischief & Vandalism | 3 | 4 | 7 | 1 | 0 | 1 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 1 | 4 | 0 | 0 | 0 | 7 | 8 | 15 |
| IV (a) Fire Insurance (b) Extended Cover (c) Riot & Civil Commotion without Malicious Mischief & Vandalism | 1 | 8 | 9 | 1 | 3 | 4 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 16 | 19 |
| V (a) Fire Insurance (b) Extended Cover (c) Riot & Civil Commotion including Malicious Mischief & Vandalism (d) War Risk | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| VI (a) Fire Insurance (b) Riot & Civil Commotion including Malicious Mischief & Vandalism | 0 | 34 | 34 | 0 | 20 | 20 | 1 | 24 | 25 | 0 | 4 | 4 | 1 | 6 | 7 | 0 | 7 | 7 | 2 | 95 | 97 |
| VII (a) Fire Insurance (b) Riot & Civil Commotion without Malicious Mischief & Vandalism | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| VIII (a) Fire Insurance (b) Riot & Civil Commotion including Malicious Mischief & Vandalism (c) War Risk | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 |
| Total | 8 | 61 | 69 | 7 | 27 | 34 | 2 | 42 | 44 | 0 | 8 | 8 | 4 | 11 | 15 | 1 | 9 | 10 | 22 | 158 | 180 |

*Including individual companies of less than 100,000 meters but which are part of a system aggregating 100,000 or more meters.

us. Just as we must look to the military establishments for protection against open attack, I think that this type of insurance must be furnished by the Federal Government. However, a pooling of a substantial portion of the electric and gas industries on a cost plus refund basis might be feasible if anyone had the time and energy necessary to sell such a proposition to various managements. I have not, however, investigated what legal restrictions there might be on such a proposition."

(13) "Regarding malicious mischief and sabotage coverage, of course this hazard exists now. We have considered insuring our property against this peril, but have not done so because of precautions . . . . by the use of guards and the education of employees and because the cost of such insurance is, in our judgment, too high. . . . ."

(14) "As respects war risk and bombardment insurance, we have considered the problem at some length . . . . but because of the uncertainties and limitations in this coverage and also the expense involved, we have not felt justified in advocating its purchase."

## EXHIBIT A—A BRIEF DESCRIPTION OF SEVERAL CLASSES OF DIRECT DAMAGE INSURANCE CARRIED BY REPORTING COMPANIES

### Fire Insurance

Covers against all direct loss and damage by fire but is not liable for loss or damage caused directly or indirectly by invasion, insurrection, riot, civil war or commotion, or military or usurped power.

### Fire—Extended Cover

This coverage is by endorsement to the fire insurance policy. It enlarges the coverage under the fire policy to include direct loss and damage due to windstorm, cyclone, tornado, hail, explosion, riot, riot attending a strike, aircraft, smoke, and vehicle damage. For a full explanation of the coverage reference should be had to the policy, but for the purpose of this memorandum there is given hereunder a limited description of the explosion, riot, and riot attending a strike coverage.

(a) Explosion

Excludes explosion originating within steam boilers, pipes, flywheels, engines and machinery connected therewith and operated thereby.

(b) Riot and Riot Including a Strike

Covers direct loss or damage by riot or riot attending a strike. By endorsement coverage may be extended to include willful or malicious physical injury to or destruction of the insured property not in connection with a riot.

There is no liability for loss due directly or indirectly to bombardment, invasion, civil war, insurrection, rebellion, revolution, military or usurped power or by operations of armed forces while engaged in hostilities (whether war be declared or not) or by civil commotion arising from any of the foregoing.

### War Risk or Bombardment

Covers against all physical loss by (1) war, whether declared or not; (2) invasion; (3) civil war, insurrection, rebellion or revolution; (4) military or usurped power; (5) bombardment, naval or military; (6) aerial craft (hostile or otherwise) while engaged in active war service during war time, including bombs, shells or missiles dropped or thrown therefrom or discharged thereat; (7) fire and/or explosion directly caused by any of the foregoing, whether originating on the premises or elsewhere. There is no liability for loss (among other causes) due to pillage or looting, clandestine acts, acts of individuals or groups not committed during and in connection with operations of military or naval armed forces in the country where the insured property is situated, confiscation, nationalization, expropriation, requisition, commandeering, capture, seizure, sequestration, or detention by or under the order of any government or political subdivision of the country or state in which the property is situated.

### Riot and Civil Commotion Without Malicious Mischief and Vandalism

Covers against direct loss or damage to insured property caused by riot, riot attending a strike, occupation of property by

(Continued on page 199)

# Utility Accountants to Review War Emergency Procedures

*L. A. Mayo*

A LARGE group of electric and gas utility accountants will gather in Cleveland, Ohio, May 11 and 12, at the Hotel Cleveland, to discuss problems arising from the war emergency. A committee headed by F. B. Flahive, Columbia Gas & Electric Corporation, and L. A. Mayo, The Connecticut Light and Power Company, has prepared an extensive program of reports and discussions for the two-day conference.

The meetings will get under way at 10:00 A.M. Monday with a general session, headed by G. H. Bourne, Commonwealth & Southern Corporation, and L. L. Dyer, The Lone Star Gas Company, as chairmen of the meeting. The session will be devoted to general presentations of the problems to be considered at later sessions. E. G. Crawford, president, The Cleveland Electric Illuminating Company, will extend the official welcome to Cleveland, and strike the keynote.

*F. B. Flahive*

E. N. Keller, Philadelphia Electric Company, will present first-hand information from Europe, "War Experiences of English Companies." Safeguarding of Records from Air Raids will be discussed by E. H. Conarroe of the Metropolitan Life Insurance Company, which has been making an intensive survey of this subject. Another subject to be presented is the very pertinent problem of Personnel Shortage.

Monday afternoon the delegates will divide into two groups to begin the more specific discussion of the problems outlined in the general session. The Customer Accounting group will concentrate on problems pertaining to this subject, and will discuss bi-monthly and quarterly meter reading and billing, collections in war time, maintenance of personnel, customers' reactions to emergency measures, training new employees, etc.

The General Accountants have listed for discussion accounting for priorities under Forms P 46 and P 98, reclamation and salvage, elimination of unnecessary reports, statements, comparisons, and the streamlining of those considered essential, extraordinary overheads and costs, injuries and damages, taxes, protection of vital records, replacement of equipment, transportation, etc.

Tuesday the conference will divide further into eight smaller groups for the more intensive consideration of specific subjects. Eight of these smaller group meetings are scheduled to consider:

Customer Accounting
Customer Relations
Credits and Collections
Depreciation
General Accounting
Materials, Supplies and Transportation
Plant Accounting and Records
Taxation

These meetings will begin at 9:30 A.M. and will continue throughout the morning. At 12:30 the delegates will move to Luncheon Conferences where the discussion will be continued throughout the afternoon, until the subjects have been covered as thoroughly as time limits will permit. The charge for the luncheons will be $1.50 and they will be open to all attending the conference.

# War Service First Is Home Service Creed

By JESSIE MCQUEEN

*Home Service Counsellor, American Gas Association*

HOME SERVICE has long since gone to war, swinging into action on the home front in the national nutrition program, and extending its efforts to the Red Cross, to civilian defense and to all local nutrition groups. As May enters the fifth month of the United States at war, the activities of the home service divisions have enhanced the reputation of the gas industry in meeting every opportunity to provide genuine service to their customers and to their communities.

In the March issue of the A. G. A. MONTHLY we outlined the full cooperation of home service departments of gas companies in New England in the nation's program of preparedness, not only for emergencies but for everyday living, to make the most of what we have and to improve the health and well being of all citizens. We turn now to the Pacific Coast where a very active home service group in the Pacific Coast Gas Association is going forward under the chairmanship of Grace Meyer of the Southern California Gas Company, Pasadena, Calif.

Of particular interest in any summary of these activities is the fact that a large number of home service directors in the Pacific Coast companies have been selected as leaders and officers in community nutrition councils. This recognition in time of need shows that home service has been successful over a period of years in building up a reputation for service and has established confidence in the homes of its communities. Gas companies who have placed their confidence in these departments as a contact with their customers now have indisputable evidence that this confidence has been justified.

Following are the highlights of the activities of seven Pacific Coast gas companies which have established a record of fine achievement in their cooperative activities:

### Portland Gas and Coke Company, Portland, Oregon

Mrs. Rita Calhoun, Home Service Director

The Portland Nutrition Committee was organized in October. Mrs. Calhoun was appointed chairman of the committee to plan and supervise all teaching which included actual food preparation and demonstration. The committee took over the work of teaching all of the Red Cross 20-hour canteen and nutrition courses. Each series of lessons includes a two-hour demonstration class devoted to "Preparation and Storage of Food in the Home." This is a demonstration of good cooking practices relative to typical foods, and includes the preparation of one green leafy vegetable and one strong flavor vegetable; one tender and one tough cut of meat; broiling of ground meat steak; one oven dinner and one dish meal prepared on top of the range.

Eight members of the home service staff conducted these classes in the "Hospitality House," kitchen of the Portland Gas and Coke Company; with three classes with an average attendance of 65 being given each week. The same type of cooperation has been offered to county nutrition chairmen

*Above—Helen Peterson, of the home service department of the Southern California Gas Company, instructing a Red Cross nutrition class. Below—A Red Cross worker serves hot coffee to cold soldiers in camp*

*Pictures show various activities in preparation for "refugee" dinner staged for a Red Cross canteen course made up of high school and junior college students to depict conditions which would prevail in actual mass feeding of homeless persons. Home service workers of the Southern Counties Gas Company, Pomona, Calif., cooperated in the canteen course*

in districts outside of Portland which are served by the company.

The home service advisors are listed with the Portland Nutrition Speaker's Bureau to give 45-minute talks to club groups throughout the city and an average of one a week has been given.

Each one of the staff also is a member of the Red Cross Canteen Corps and Mrs. Calhoun acts as a supervisor for the practice work in food preparation which is carried out in the basement of the city auditorium. This work is also given in cooperation with three institutional dietitians. In the classes given by the Portland Gas and Coke Company, a group of eight hour nutrition courses have been provided to girl scout leaders, senior girl scouts and camp fire guardians.

**British Columbia Electric Railway Company, Vancouver, B. C.**

Jean E. Mutch, Home Service Director

Six members on the staff of the home service department carry on a diversified program of home-makers' courses, kitchen-planning services and have considerable contact with the newspapers and company magazines. The recipes used in the home-makers' courses are kept very practical. The markets are frequently checked to see what foods are less expensive and which ones are being needed for exportation to Britain, so the surplus foods not needed for the armed forces are well represented in the recipe information.

In response to a request for help in menu planning from an officer in charge of the mess of one of the large R.C.A.F. stations, this interesting reply was received: "Since the weight-carrying capacity of aircraft is limited, I only trust I will not have to write requesting a reducing diet from you to counteract the efforts of the big improvement that is shown in our meals." Through the Red Cross women volunteers enrolling as cooks in community feeding stations, these women have been given a course of ten lessons in which the home service department has assisted.

The printed monthly bill enclosure entitled "Home Service News" is most helpful. The May 1942 issue under the heading "War Workers First" outlines an excellent article by Jean Mutch, "Production Soldiers March on Their Stomachs." This explains why men at work need balanced rations and carefully prepared foods to provide the speed-up in production that is needed for victory. Suggestions for lunch box menus and recipes are included. Each page of the eight-page bulletin, set up by J. Lightbody, advertising director, includes this box:

> PLEASE PHONE
>
> Being helpful is our job. If you've any problems or questions, please give us a ring. Home Service Dept.

**Southern California Gas Company**

Gladys B. Price, Home Service Supervisor

The entire home service organization of this company stretching through Southern California, including the services of the home service directors, demonstration kitchens, auditorium and cooking facilities, have been provided to the American Red Cross in a civilian training program in nutrition and canteen work. The home service women were certified as instructors and a total of 18 classes per week with an average attendance of 150 at each class have been held. One night class of 250 was conducted for those who could not attend in the afternoon.

With Pasadena serving as an illustration of the work in other cities, our report from Grace Meyer indicates: Four canteens are operating to serve Red Cross workers their noon meal. In the city's blood plasma center, women who have completed the Red Cross nutrition and canteen course are serving blood donors—this blood donor nourishment consisting of liquids such as coffee, tea or fruit juice followed by light lunch. The blood bank is well equipped with canteen service equipment. Other graduates of canteen courses since December 7 have been sent to various places in the area many times on secret missions to feed soldiers on guard duty or to whatever jobs are assigned to them.

**Pacific Gas and Electric Company**

Mrs. Cleo Filsinger, Appliance Counsellor, San Francisco

A dramatic presentation of the nutrition story for San Francisco women has been much publicized in the San Francisco newspapers. A series of photographs showed Mrs. Filsinger in successive steps in which she prepared a dinner in 45 minutes flat. She represented the average housewife entering the house at 5:45 carrying bundles and her purse dangling from her arm. The packages were placed on the kitchen table, the oven was turned on in her modern gas range, and the thermostat was set for 400°. Upon removing her wraps and putting on an apron she explained the purpose of the demonstration and described it step by step. As the clock ticked off the minutes the complete meal was placed on a previously set table, and a large red, white and blue chart was placed at the back of the table. The meal was then analyzed as an assistant called out the foods and checked them off.

In San Francisco a dealer cooperation plan of the company fits into several campaigns held in the various department stores. One done recently is entitled "The American Way," with the entire household department of one of the large stores participating in the big event. Mrs. Filsinger serves as a member of the executive board of the San Francisco County Nutrition Council and is chairman of the nutrition demonstrations for the council. All nutrition classes in San Francisco register with this group for their demonstrations.

A salesmen's nutrition course offered to all utility employees originated in the dealer sales promotion department and was sponsored by the San Francisco unit of the Gas and Electric Appliance Societies. Five lessons constituted the class and it was well attended. Other appliance counsellors throughout the large district of Northern California served by the Pacific Gas & Electric Company are carrying on a similar program of community service.

**Southern Counties Gas Company**

Mrs. Frances Brewer, Chairman, Home Service Group

The national nutrition program has put a demand on all members of the depart-

*Mrs. Cleo Filsinger, chairman of nutrition demonstrations in San Francisco, urges a nutrition course for salesmen. With her are Joseph M. Cullen, president, S. F. Gas Appliance Society, and C. P. McCarthy, dealer sales promotion supervisor, Pacific Gas and Electric Company*

ment through the different districts of this company as speakers of PTA groups, school groups, home economics classes and organized service and women's clubs. With the imminent sugar rationing, an active program has been necessary to provide special recipes and scaling "favorite" recipes with sugar alternates. Home canning requests are pouring in at an ever increasing rate.

In Santa Monica, Katherine Rathbone is nutrition chairman for the Santa Monica—Ocean Park Red Cross, and also chairman of the Red Cross Disaster Relief. Through this plan, Red Cross nutrition classes, PTA sponsored, and Junior Red Cross nutrition classes with the school home economics teacher cooperating, have provided an active program. In the Orange County district Margaret Lackland is canteen coordinator for the Red Cross Canteen Committee.

In Ventura County, Mrs. Rita Richards is the Red Cross nutrition counsellor for the county and is cooperating with the home economics teacher of the junior college in presenting the canteen course. Already four ten-week Red Cross nutrition classes are being conducted in Santa Barbara County and Mildred Seaberg is a member of the County Nutrition and Defense Council.

In the San Gabriel section, Florence Matheny is nutrition and canteen chairman for the Monrovia Red Cross and through this has presented nutrition classes in several cities in the district. Margaret Dooley in the harbor district has conducted Red Cross nutrition and canteen classes and is working with the Harbor Hills housing unit.

In the eastern district, Frances Brewer has followed the same plan of cooperation in Red Cross instruction and demonstrations. A special news item describes a practice experiment for the canteen course made up of high school and junior college students and towns-women in serving a covered pit barbequed dinner in one of Pomona's parks.

Two hundred and fifty citizens of the city, which included representatives of service and social clubs, "played refugee" and enjoyed barbequed beef, beans and vegetable salad, under the same conditions which would prevail if mass feeding of persons made homeless by disaster were ever necessary. *(See photographs on page 191)* A newspaper article indicated that the only note lacking in the trial mass feeding was the grimness, looks of despair and utter hopelessness that would be registered on the faces of the actual victims of an air raid. By contrast their faces indicated the jovial picnic mood and carefree spirit of free America.

The attendance at nutrition classes—just as in all sections of the country—has exceeded the capacity of the auditorium necessitating a breakup of classes into sections. Too, it has been estimated that women reached in this way are many times those who have never before been interested in cooking and have not been in contact before with the services of home service departments.

**Central Arizona Light and Power Company**

Ruth D. Kruger, Home Service Director

All members of the home service staff have first studied and then presented an intensive nutrition refresher course. From this has grown the presentation of "Food for Victory Menus" which are put out every Friday so that homemakers can take advantage of week-end specials. From the Americanization class teacher in Phoenix, Miss Kruger received a request for wider distribution of these recipes among his groups.

Three new housing units in Phoenix have been reached through the home service department in instruction on the care and use of appliances. These consist of 175 units for negroes, 200 units for Spanish groups and 230 for other American groups.

Quantity recipes have been prepared and provided for the city canteen activities with one group doing a practical piece of work by serving dinner every Thursday at one of the churches. Menus for emergency rations to last for two days for four of the substations of the company have been set up for use if it becomes necessary.

**The San Diego Gas and Electric Company**

Mrs. Mildred Kier Townsend, Home Service Director

The growth in San Diego's population is reflected in the increase in gas meters, which scored a net gain of 9,446 or 11 8/10% in 1941. This represents 4,200 installations in new private buildings and homes and 5,276 in defense housing units. The home service department has cooperated with the Linda Vista housing project newly built by the city last year. Each of the 3,000 houses is equipped with a gas range, gas floor furnace, water heater and refrigerator. To these defense workers, many of whom have come from the middle west, Mrs. Townsend has distributed instruction information on the care and use of this new equipment. In an effort to help

(Continued on page 196)

# Wartime Gas Refrigeration Activities Planned by A. G. A. Committee

THE problems relative to gas refrigeration brought on by wartime conditions, and the post-war outlook were carefully considered by the Refrigeration Committee of the American Gas Association at its meeting April 9.

It had previously been decided that the two sales contests, namely, the Salesmen's Monthly Award and the Annual Salesmen's Best Performance Award, should be discontinued. Questions remaining to be decided included a revision of the objectives of the committee, a program of committee work which would result in the greatest immediate benefit to member companies, the Home Service and Company Best Performance Awards, and consideration of the nutrition and home conservation program as developed by Servel.

As a result of extended discussion, it was felt that present day conditions make the work of the committee of greater importance than ever, and that one very important contribution to the gas industry would be to arrange for a quick interchange of ideas and information on maintaining public acceptance of gas refrigeration. Advertising, customer service, sales personnel, market studies, displays, etc., are all vital and immediate problems. The committee, because of the geographic distribution of its membership, will collect samples of ads, plans, etc., used by individual companies to meet these problems, and distribute them in the form of special releases, mailed out while the information is still "news."

The Home Service Award will be suspended, as will the Company Best Performance Award, because the bases originally used for making these awards no longer exist. In lieu of these awards, the committee will be on the look-out for ideas used by member companies to insure customer satisfaction from gas refrigeration and to keep customer interest alive until the time when gas refrigerators will again be available for general distribution.

At the end of the current Association year, those companies which have made notable contributions toward the continued acceptance of gas refrigeration by the public will be recognized by a suitable plaque or a framed certificate. This will not be for competitive effort, but rather recognition for a contribution of value to the industry. It may be an advertising approach, a plan for customer service, a method of keeping a skeleton sales organization alive, a plan for wartime Home Service activities, a market analysis plan or other similar ideas.

Present-day conditions will not permit the usual uniformly planned endeavors, but individual companies will work out solutions to their problems which will be of real benefit to member companies and their customers. The committee plans to distribute these ideas and recognize the contributions of such companies in a suitable manner.

The committee reviewed in detail the nutrition and home conservation plan developed and presented for consideration by Servel. It was evident that a great deal of careful effort has been expended in the preparation of the program. The necessary government agencies had been contacted to make certain that the entire idea coincided with the general aims of these agencies, and the plan is so designed that member companies can use it in whole or in part, to suit individual company needs. The committee went on record as approving the plan unanimously and recommending its serious consideration by all gas companies.

Industrial & Commercial Gas SECTION

GEORGE F. B. OWENS, *Chairman*
B. H. GARDNER, *Vice-Chairman*
EUGENE D. MILENER, *Secretary*

# How Industrial Gas Is Promoting Canada's War Effort

By D. H. THORBURN

*Manager, Industrial Gas Department, United Gas & Fuel Company of Hamilton, Ltd., Hamilton, Ontario*

FOR a base period of 1938 and early 1939, our industrial gas sales represented approximately 57% of the total gas sold. Of this, 53% was regular rate uninterruptable business, the remaining 47% was sold as interruptable, or dump gas. Therefore, having approximately 27% of our total production available for conversion from a dump gas classification, we certainly went out to sell gas.

Our first fair-sized job was a shell plant. In that project we were able to eliminate all competitive fuels. This firm was the first on this continent to produce shells by the extrusion process. To get production by this method, the billet temperature must be held within very close limits and to my knowledge this has never been done successfully with anything but a gaseous fuel.

### Gas Equipment in Shell Plant

This project included a new building of approximately 200,000 sq.ft. which incidentally is heated with gas units; three gas-fired rotary furnaces having a production of some 15,000 lbs. per hour; six nozing furnaces, four band annealers, a 1,000,000 B.t.u. conditioner for heating inspection offices, and water heating was originally installed in this plant. This firm today, now has seven rotary furnaces in operation and two more under contruction. To illustrate what has happened to the load, the following figures should be of interest, taking their normal pre-warload as 100%: With only one rotary furnace in operation for a couple of months towards the end of 1939 the load increased 10%; 1940 increased 457%; 1941 increased 647%; 1942, who knows?

The next is a firm forging 3.7 A.A. gun barrels. In this plant, gas is used in the ingot holding furnaces and intermediate step annealing furnaces. In less than two years, this firm has tripled the original equipment. This same firm began rolling and heat-treating armor plate in late 1940 (gas is used here for every step of heat-treatment). The combined load of the plant reveals these figures:

1939—20% over pre-war base
1940—277%
1941—515%
1942 estimate—900%

A die-cast company, affected by the curtailment of aluminum and zinc alloys for non-essential commodities, began producing shell plugs, bomb parts, airplane instrument parts, etc. By the end of 1939, their consumption increased by 295%; 1940, 614%; 1941, 1385%.

A precision spring plant, which had a completely equipped, modern batch type, gas-fired heat-treat department installed in 1940, a continuous, radiant tube, full atmosphere controlled hardening furnace, a modern continuous air-draw furnace, continuous hump oven and continuous rod heating furnace. Two months ago, this firm placed orders for the duplication of all equipment installed in 1940. When the new equipment is in operation, the total load will be about 435% of pre-war consumption.

A steel fabrication and erection firm using gas for rivet heating, hot bending, stress annealing and heat treating, shows this load increase: 1939—298%; 1940—674%; 1941—1839%.

### War Increases Gas Loads

A large automobile plant, now making all types of military vehicles, light carrier gun mounts, etc., has this load characteristic: 1940 increased to 49% (this covers the changeover period), 1941—112% and present program for 1942 will increase load to 225%.

A brass company, formerly making all types of plumbing fixtures, are now producing shell time fuses, cartridges, primers, etc. Gas load 1939—167%; 1940—207%; 1941—550%.

Three major plants in our district today, have a combined total equal to our pre-war total production capacity.

I could go on for hours, but believe these examples are sufficient to indicate the trend in all types of industry.

I believe we should, for a moment, compare the combined sales figures:

1939, down 1% (which we attribute to the general readjustment and switch-over period).
In 1940, total load increased to 226%.
1941 ended up at 396% of pre-war sales.

This should indicate to you very clearly just where your own loads will likely be within a few months.

To cope with the steadily increasing load, we ceased selling gas for any form of space or central heating. We later found it necessary to ask our customers to remove all conversion types of heating equipment, the removal cost being borne by our company. In spite of these moves, the load continued to increase and we were faced with the necessity of making a major plant extension.

To enable us to estimate more accurately the required increase, we made a thorough survey of every plant in our territory. Needless to say, considerable excess was provided, beyond our estimated requirements, but before the plant was finished we were again short of gas.

The first extension cost us about $700,000 and we are again in the process of expanding, which is estimated to cost several million dollars.

Due to the gravity of the present general fuel situation, our industry is now under the complete control of a Federal Power Controller. A recent order prevents us from taking on any new business, without first obtaining a special permit, and these are granted only when the fuel is to be used for the production of essential war materials. This order even prevents the installation of domestic appliances, except for replacement purposes only.

Having outlined some disturbing figures which may have given you the impression that we are unhappy with our lot, I will, for a moment, touch on the highlights only of some applications in our war industries in which, without gas, the present state of perfection would be questionable.

(1) Intermediate stage annealing while drawing non-ferrous cartridge cases. One plant in our part of the country is making 42" draws with almost no rejects.

(2) The increased use of tungsten carbide tools has opened a new field for atmosphere furnaces for the repair of these tools.

(3) Necessity of switching to Moly steels and other newer types of alloys has practically thrown the heat treatment of these newer alloys right in our lap. We have a couple of proven types of atmosphere gases that we certainly should commercialize on while the opportunity exists.

(4) Soft metal melting in production of military aircraft and naval batteries

Paper presented at A. G. A. Industrial and Commercial Gas Conference, Pittsburgh, Pa., March 12 and 13.

including those types used in submarines.

(5) Every stage of heating in the production of radio and instrument tubes.

(6) Continuous ceramic kilns for cantonment china.

(7) Smoke house equipment, used in processing export pork products.

(8) Melting, blowing and annealing optical glass.

(9) A western natural gas company to date has 97% of the total space heating, cooking and water heating load in seven large air schools and five army camps. Gas is also used for the observation balloons at one air school.

(10) Tremendous quantities of natural gas are being used for the extraction of hydrogen for the production of ammonia.

(11) Forging and ageing all types of aluminum airplane parts, and lastly,

(12) The pamphlet, "Canada Supplies the Tools of War," may give you a few more ideas of many commodities now produced in our country. And it should go without saying that gas is used in every heating phase.

In spite of the many problems we are very proud of the important part gas has played in promotion of our war effort. We have seen much progressive use of gas and had some excellent equipment installed in our territories for which I think we all owe thanks to the unceasing efforts of our furnace manufacturers.

## No A. G. A. Combined Gas Exhibits This Year

IN view of the uncertainty of conditions under which appliances and other utilization equipment will be sold and the predominant attention to the war effort, the American Gas Association has decided not to sponsor combined gas exhibits at national industrial and commercial expositions this year. For a number of years, A. G. A. combined exhibits organized and sponsored by the Industrial and Commercial Gas Section and participated in by manufacturers of appliances and equipment and local gas companies, have been outstanding features of such expositions as the National Hotel Exposition, National Restaurant Exposition, National Metal Exposition and National Exposition of Power and Mechanical Engineering.

It is recognized that these exhibits have been of distinct value to gas companies and manufacturers and have been a great incentive to gas sales but it is believed unwise to conduct them this year. The Industrial and Commercial Gas Section Managing Committee decided, however, that the section will cooperate with and assist appliance and equipment manufacturers and gas companies who plan to exhibit at national industrial and commercial expositions.

## INDUSTRIAL AND COMMERCIAL GAS ADVERTISING FOR MAY

The National Advertising Committee of the Industrial and Commercial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of May. These advertisements, which will appear in 16 publications reaching a total audience of 288,587, are prepared in cooperation with the Committee on National Advertising as a part of the Association's national advertising campaign.

### General Manufacturing

BUSINESS WEEK (May 16)—More Tanks—*Faster* with Industrial *GAS*.

### Metals Industry

THE IRON AGE (May 14)
STEEL (May 18)
METALS AND ALLOYS
INDUSTRIAL HEATING
HEAT TREATING AND FORGING
—Business Week advertisement entitled: "Behind our armed forces . . . the steady flame of *GAS*!"—plus tie-in paragraphs on specific results shown by plants in the metals field.

### Baking Field

BAKERS HELPER (May 9)—Time for "Chow" at Army and Navy Bases . . . and precision *GAS* baking stands by!

### Ceramic Industry

CERAMIC INDUSTRY—If we work fast enough . . . we shall win! . . . and modern *GAS* equipment is helping to speed our war effort!

### Hotel and Restaurant Field

AMERICAN RESTAURANT—Armies must be fed well! . . . and modern *GAS cooking* has pitched in "for the duration!"

CHAIN STORE AGE (Fountain and Restaurant Section)—At Military bases too, *GAS* cooking wins its stripes!

### Hospital Field

MODERN HOSPITAL—For sick soldiers and sailors *Food* is even more important! . . . and *GAS* cooking stands by.

## ★ Gas at Work ★ ON THE WAR PRODUCTION FRONT

**Vital foods dried by gas.** Eggs, milk, coconut, tomatoes, molasses and even bananas, are powdered by gas heat for consumption at home and in England, Russia, Libya, and the western Pacific.

◆

**Radiant heat** from gas-air mixtures forced through refractory slabs is now being commercialized in war plants for high temperature burner work. Trade name, "Thermavol."

◆

**Our greatest saboteur,** says George Rohde, is disease. Hot water for health will help keep production at a peak—and gas-fired water heaters can meet sanitation code temperatures, even in hard water districts. Is your local health officer in on this?

◆

**At the Natural Gas Convention**—New Orleans—important angles of natural gas in war production will be analyzed by experts.

◆

**Keeping steam up** for "our boys." One of the interesting developments in military kitchens is the use of improved gas-fired vegetable steamers. Vegetables are steam-cooked in bushel lots for hungry soldiers and sailors—in a very few minutes.

◆

**In aluminum manufacture** gas is used in every step—melting down raw ore, purifying, forming ingots and sheets, and heat treating finished war products.

◆

**"Dine Out Every Week"** will be the widely used slogan for National Restaurant Week—May 4-10. Are your customers' appliances in topnotch order?

◆

**Gas is being extensively used** in plants that are making chemicals formerly imported from Germany.

◆

**Army Quartermasters' Corps** has taken over the American Institute of Baking—an affiliate of the American Baker's Association. Here hundreds of men are being trained to act as baking instructors in other army training centers.

◆

**Australian war effort** speeded with gas. Among the new gas equipment reported working 24 hours a day are annealing furnaces with larger outputs and more automatic controls.

◆

# Production and Chemical Conference to Review Technical Efficiency of Gas Industry

*R. H. Arndt*

A PROGRAM of urgent timeliness will be presented at the joint conference of the Production and Chemical Committees of the American Gas Association which will take place Monday and Tuesday, May 25-26, at the Hotel Pennsylvania, New York City. Wartime demands which have greatly increased the operating man's responsibility, make this year's conference of exceptional significance. Normally a three-day event, this year's series of meetings has been restricted to two days so that the key chemists and production men can get back to their jobs promptly.

**Joint Transportation Session**

R. J. Sheridan, head analyst of The Brooklyn Union Gas Company, and chairman of the Chemical Committee, and Raymond H. Arndt, superintendent of gas manufacturing, Consolidated Gas Electric Light and Power Company of Baltimore, and chairman of the Gas Production Committee, are co-chairmen of the conference.

On Tuesday morning a joint session of the Production and Chemical Conference and the Motor Vehicle Conference, which is being held concurrently, will take place. A prominent speaker from the Army, Navy or one of the government's defense agencies is expected to address this joint session. There will also be presented several general papers of interest to both the transportation group and the engineers and chemists. Following this phase of the meeting the two groups will separate and continue their respective conferences.

Major Alexander Forward, managing director, American Gas Association, will welcome the delegates to the first session, Monday morning, following which specific production problems will be discussed. "Meeting Peak Loads," a subject of widespread interest in view of war industry demands upon the gas industry, will receive special attention at this session. L. J. Willien, Public Utility Engineering & Service Corp., Chicago, widely known authority on this subject, will present the principal paper. Paul W. James, The Lincoln Electric Company, will speak on "Electric Arc Welding in Gas Plant Maintenance," and Dr. W. C. Rueckel, Koppers Company, will discuss "Principles of Heating Koppers-Becker Coke Ovens." Other likely topics at this session are: "Use of Oil in Coke Plants" and "Substitute Fuels."

The Monday afternoon session will be devoted to chemical subjects of outstanding interest. W. M. Pierce, chemical engineer, Employers' Liability Assurance Corp., Boston, will describe "Scientific Methods Applied to Accident Prevention," and Louis Shnidman, laboratory director, Rochester Gas & Electric Corp., Rochester, N. Y., will speak on "Corrosion of Stainless Steel by Flue Gases." Prof. A. W. Gauger, Pennsylvania State College, will present a paper on "Microanalysis of Ash." Also at this session will be a valuable discussion of "Selection of Coals for Wartime Carbonization by Means of an Improved Engineering Model of the Coke Oven," by V. J. Altieri, chief chemist, Eastern Gas & Fuel Associates, Everett, Mass.

**Gas Conditioning Report**

The report of the Gas Conditioning Committee will be presented Monday afternoon. H. D. Lehman, The Philadelphia Gas Works Co., and Dr. E. W. Guernsey, Consolidated Gas Electric Light and Power Co. of Baltimore, are chairman and vice-chairman, respectively, of this committee.

As mentioned previously, the Tuesday program opens with a joint session of the Production, Chemical and Motor Vehicle groups. Following this joint session, which is expected to last until 10:30 A.M., the conference will continue until 12:30 P.M. with a discussion of various aspects of national defense as it relates to the gas industry. This phase of the program has been kept purposely flexible but will include such subjects as Occupational Readjustments, Increasing Plant Capacity, and Protection of Properties.

Luncheon meetings devoted to informal discussions of specific problems will conclude the conference on Tuesday afternoon. The Gas Production Committee will sponsor simultaneous meetings on the following subjects: Carbonization of Coal, Production of Carburetted Water Gas, and Production of High B.t.u. Gas.

W. R. Fraser, experimental engineer, Michigan Consolidated Gas Co., Detroit, is chairman of the Chemical luncheon meeting. His group has prepared a full program of short presentations of vital facts, including the following: Quantitative Determinations by Gas Liberation (a demonstration lecture), Dr. E. G. Seil, Philadelphia; Dehydration of Tar Emulsions, C. J. Lueders, Lynn, Mass.; Wash Oil Inhibitors, Dr. O. W. Lusby, Baltimore; Ammonium Sulphate Production, William Tiddy, New York; Shortages of Vital Materials, L. M. Van der Pyl, Pittsburgh.

*R. J. Sheridan*

The chairman of the Program Committee of the Chemical Committee is T. L. Robey, chief chemist, Washington Gas Light Co., Washington, D. C.

Ample opportunity has been provided during the conference for discussion of individual problems which may not be covered specifically in the framework of the program.

## Gas Institute To Study Sulphur Removal

A RESEARCH project relating to the removal of organic sulphur from manufactured gas has been established at the Institute of Gas Technology by the Rochester Gas and Electric Corporation. The sponsoring company has granted $12,000 for the program.

A five-member steering committee, including three representatives from the Rochester Gas and Electric Company and two from the Gas Institute, will direct work on the project. Representing the company on the steering committee are A. M. Beebee, R. E. Kruger and Louis Shnidman; representing the Institute are R. C. Kintner and R. L. Hicks.

## W.P.B. Steel Order

THE War Production Board announced April 21 that all deliveries of iron and steel will be restricted after May 15 to preference ratings of A-10 or higher. The original order applied to steel products only. Form PD-73 is abolished effective May 1.

# Motor Vehicle Operators to Meet in New York, May 25-26

*Jean Y. Ray*

THE second annual conference of the Committee on Operation of Public Utility Motor Vehicles will be held concurrently with the joint Production and Chemical Conference at the Hotel Pennsylvania, New York City, Monday and Tuesday, May 25 and 26. With attention riveted on the necessity of saving rubber and conserving automotive equipment during wartime, this meeting of transportation men has a full quota of problems to discuss. New developments since the recent valuable report of this committee on war conservation methods, will be covered in detail.

Jean Y. Ray, Virginia Electric & Power Co., Richmond, is chairman of the committee and Linn Edsall, Philadelphia Electric Company, heads the program committee.

"Engine Adjustments for Wartime Fuels" will be the principal topic of the Monday morning meeting at which Ed Page of the Ethyl Gasoline Corporation will be the opening speaker. At the afternoon meeting, W. J. Cumming, formerly automotive engineer for the Third Avenue surface lines, New York City, and now head of the maintenance section of the Office of Defense Transportation, will discuss the truck rationing program and other phases of truck operation under present restrictions.

The Tuesday morning program opens with a joint session with the Production and Chemical Conference at which time Mr. Ray will speak on truck and tire rationing and answer any questions which may be raised. Following this discussion, the motor vehicle operators will resume their separate meeting. The remainder of the day will be spent at a closed session at which operating problems will be discussed in detail. S. G. Page, Equitable Auto Company, Pittsburgh, will preside at this meeting.

# Cathodic Protection in New Orleans; 14 Years without a Corrosion Leak

By ROBERT J. KUHN

*Consulting Engineer, New Orleans, La.*

AT the annual meeting of the Natural Gas Section of the American Gas Association in New Orleans in May 1938, the writer presented a paper entitled "Ten Years of Cathodic Protection in New Orleans," in which he described the application of cathodic protection to the steel high pressure gas transmission and industrial distribution system installed in New Orleans in 1928.

This high pressure gas system was built to transmit natural gas from the city gate to the old gas plant, to the steam electric generating station and to some large industrial customers of New Orleans Public Service Inc.

The pipe lines were laid through some of the worst naturally corrosive soils in the United States and directly through the heart of several railway sub-station areas where the possibility of stray current electrolysis was very great.

The lines which consisted of steel pipes of from two to twenty inches in diameter were welded throughout except for valve flanges and a very few couplings. The lines were heavily coated and wrapped, after having been machine cleaned, with double layers of asbestos felt and bitumen.

It was felt that despite the heavy coating and wrapping, holidays and scars in the coating and wrapping would develop. In the light of previous research with galvanic currents and the protective effect of electricity, properly applied, it was decided to electrify or "cathodically protect" the entire new steel system in order to prevent corrosion and penetration of the steel pipe lines at the holidays in the coating.

That some of the soils in the New Orleans area were naturally very corrosive was evidenced by the corrosion life on two neighboring steel gas systems laid about the same time that the steel lines were laid in New Orleans and from Bureau of Standards and numerous tests conducted in the New Orleans area proper. Leaks were experienced in 4 to 5 years on these two steel systems and general reconditioning or replacement seemed to be the only remedies.

No corrosion leaks had been experienced on the New Orleans steel gas system and as a final resort, the two neighboring steel lines were electrified based on the New Orleans pattern.

Leaks on these two systems stopped practically immediately and corrosion on these lines is no longer a problem.

At the Natural Gas Convention in New Orleans in 1938, the writer reported:

*"The outstanding fact remains that after ten years under the most trying electrolysis and soil corrosion conditions the highly susceptible steel high pressure gas system in New Orleans has not had a single corrosion leak from any cause whatever while similar neighboring systems developed large numbers of corrosion leaks in about 5 years."*

Now that four more years have rolled by the writer is glad to report to the gas industry that the same statement can be repeated with the exception of substituting fourteen years for ten years.

*In other words not a single corrosion leak has developed on the steel high pressure gas system to date after fourteen years of service.*

We believe this record speaks for itself for the system of protection of pipe lines developed in New Orleans by the writer and for which he has been called by national authorities "The Father of Cathodic Protection."

## Service Charges

THE Public Service Commission of New York has ruled that it has no jurisdiction over charges made by gas companies for repairs and maintenance of certain types of gas appliances on the premises of consumers. Such service, the commission ruled, is not utility service. The ruling was made on the basis of proceedings started after a number of gas companies in the New York area announced Jan. 1 that they would charge a minimum of $1.50 for responding to service or repair calls for other than certain specified equipment.

A western natural gas company in Canada has 97 per cent of the total space heating, cooking and water heating load in seven large air schools and five army camps. Gas is also used for the observation balloons at one air school.—*D. H. Thorburn.*

## HOME SERVICE ACTIVITIES

(Continued from page 192)

the many young brides of navy and defense workers, Elizabeth Redlings conducts two classes a week in six-week courses.

The San Diego Gas and Electric Company is credited with having the first Red Cross nutrition course in the city. Two units have been presented and the first canteen course is under way. Mrs. Townsend conducts classes over the radio Tuesdays and Thursdays in cooperation with the Federated Women's Clubs in San Diego County. The first fifteen minutes of the program are broadcast, following which a 1½ hour demonstration of the foods in the "Diet for Defense" menus is given. Door prizes include a set of ten defense savings stamps and the food prepared in the demonstration.

Thus home service on the Pacific Coast, as elsewhere, lives up to its name at a time when "home" and "service" are vitally important in this *War of Survival.*

Laboratories

GEORGE E. WHITWELL, *Chairman*
R. M. CONNER, *Director*
W. H. VOGAN, *Supervisor, Pacific Coast Branch*

# Immersion Tubes for Industrial and Commercial Heating

By F. E. VANDAVEER

*Assistant Director, A. G. A. Testing Laboratories, Cleveland, Ohio*

*F. E. Vandaveer*

THE peculiar advantages of immersion tubes for many types of commercial and industrial heating applications have long been recognized. While the first use of immersion heating is not definitely known, applications of this principle were made in the United States more than 40 years ago. In general, heating processes employing immersion tubes include soft-metal melting, heating of oil for cooking purposes and of solutions for cleaning and pickling, heating of water, pasteurizing, and numerous other operations involving the application of heat to liquids or solids. Strictly speaking, use of immersion tubes for imparting heat to surrounding gaseous atmospheres should also be classed as immersion heating. However, the term has come to be identified generally with heating of liquids or metal melting.

### Advantages of Immersion Heating

Fundamentally, immersion heating is no different from any other type where energy is transferred directly from a combustion zone or flue gases through solid walls to the medium being treated. Advantages of immersion heating are, therefore, derived from factors which must be specifically evaluated for each application. It may be stated, however, that five specific advantages are generally ascribed to immersion heating. These are:

1. Maintenance of high thermal efficiency over a long period of service due to lesser tendency of solid materials such as dross, lime and decomposed cooking fats, to deposit on immersion tube surfaces and produce an insulating effect as compared to direct underfiring.
2. Longer life of heating surfaces for the reason just mentioned.
3. Faster preheating resulting from reduced heat capacity of the structure, which in turn is due to the absence of combustion chamber walls necessary with externally fired applications.
4. Lower initial cost at times, since combustion chamber walls may be eliminated and tank or vat supporting structures simplified.
5. Convenience of application to existing tanks.

Although immersion heating seems to possess inherent advantages, it presents the same fundamental problems as any other method of firing. The film barrier to heat transfer from the combustion zone and flue gases to the heating surface walls is still present. Furthermore, the extremely low viscosities of many of the fluids heated impair greatly the process of convection-heat transfer from the heating surface walls into the fluid. Design necessary to provide adequate heat transfer area for the immersion tubes or coils, as well as provision of sufficient capacity for handling flue gases to assure satisfactory heating rates and recovery is difficult. The overall problem is complicated to some extent by the fact that in immersion heating the tube or coil serves three primary functions, namely:

1. Space or volume for the combusion reaction.
2. Surface for heat transfer.
3. Capacity to permit flow of the flue gases without creating undue resistance.

Obviously, good design must effect a satisfactory correlation of tube diameter and length; tube material and thickness; gas input rate; burner type and placement; flue gas baffling; and other factors so as to provide adequate combustion space, maximum effective heat-transfer area and heat transfer rate, and sufficient flue gas capacity.

In spite of the long and varied application of immersion heating with gas firing to many industrial processes, most contemporary designs are empirically derived and based on accumulated experience. This is necessarily so in the absence of full fundamental data relating to heat transfer rates, combustion space, flue gas capacity, and other basic factors for the peculiar conditions involved in immersion heating applications. A large amount of data exists on heat transfer through tubes themselves. However various shapes of immersion tubes, use of baffles, and occurrence of combustion in an appreciable portion (if not the major portion) of the total tube length introduces numerous special cases which cannot be precisely treated with available data, particularly in view of the necessity of correlating heat transfer rates, combustion space and flue gas capacity.

While this lack of technical data does not imply that present applications are unsatisfactory nor that present catalogue data are being questioned, it does mean that some contemporary immersion heating methods are not as efficient or satisfactory as they might be, that manufacturers and engineers are hampered in development of optimum designs and applications, and that full utilization of this important principle of applying gas heat is not being realized.

### A. G. A. Research Project

Recognizing the need for basic data on immersion tube heating, the Committee on Industrial Gas Research of the American Gas Association, of which J. W. Batten, vice-president and general manager, Michigan Consolidated Gas Company, Detroit, is chairman, has initiated a fundamental research project on this subject. This assignment has been made to the A. G. A. Testing Laboratories and is designated as Project No. 47, "Research in Gas Immersion Heater Design and Operation." Laboratory work was started on this project the latter part of January. To date progress has been made on review and abstract of literature and manufacturers' data and catalogues, and test equipment is being assembled. All known manufacturers of immersion burners and tubes and deep fat fryers using the immersion principle have been informed of this work. In every instance full cooperation was extended and equipment offered for experimental purposes.

A working outline for this research project is appended hereto. This outline and its objectives will be discussed briefly, with the thought that such discussion will not only be interesting but will serve to develop additional suggestions from engineers and others in our industry who may be directly interested in one or more aspects of immersion heating. Such suggestions, after receiving approval of the sponsoring committee, can be incorporated in the outline and thereby serve to direct the work along lines of most practical usefulness to industrial gas men and manufacturers.

Paper presented at A. G. A. Industrial and Commercial Gas Conference, Pittsburgh, Pa., March 12 and 13.

It is planned to divide the experimental work into three parts using (1) atmospheric type immersion burners, (2) forced draft type immersion burners, and (3) induced draft immersion burners. On all three types of immersion heating, examination and testing of representative types of contemporary equipment will precede recording of handbook data and determination of effect of various changes in important variables on their performance. Such tests will include combustion, burner and pilot operating characteristics on manufactured and natural gases; study of factors affecting efficiency and heat transfer per unit area, length and diameter of tubes, and noise of operation. With this experience as a background it will be possible to correlate the data obtained with manufacturers' published material and other technical information in such a way as to avoid duplication of previous work. Of more importance, it provides a sound basis on which to chart research into those phases of immersion heating about which little is known.

### Atmospheric Type Burners

With atmospheric type burners a number of studies are contemplated and designed to provide data on the following questions:

1. How much vertical riser pipe is needed to provide adequate venting of flue gases and to compensate for resistance created by various straight horizontal lengths of tubes, and for one or more elbows and return tubes?
2. To what extent can other means such as venturi action, blowers and fans, thermosyphon pump, proper sizing of tubes, etc., be used advantageously to induce better draft through tubes and combustion capacities and increase heat transfer?
3. What are optimum diameters of tubes in relation to length and gas input rates that can be used for best performance?
4. How much heat can be transferred per unit tube length?
5. When and how can internal baffling of tubes be employed advantageously?
6. What are best types of flame and degree of primary aeration for best heat transfer and best heat distribution?
7. What effects do shape of tube, internal or external fins and baffles have on heat generating capacities and on heat transfer?

Research is necessary to provide the answers to these and similar questions. While it may develop that such answers will not enable startling improvements to be made in immersion heating, the fundamental data that will be secured will enable substantial improvements in capacities and operation to be attained.

On forced draft type immersion burner heating, much of the above information will be directly applicable. In addition it is intended to study the effect of various air-gas mixtures, air pressures, back pressures, and design and location of restrictions to attain back pressure on combustion, heat transfer and noise of operation. Problems relating to ignition will also be considered.

Studies similar to those listed above, but with appropriate modifications, are planned for induced draft type immersion burners. They will also include studies on varying amounts of secondary air and various combustion chamber pressures as they influence general performance of this type of heating.

As will be noted, considerable emphasis has been placed on obtaining fundamental data to permit designing gas-fired immersion tube heating for maximum efficiencies and flue gas capacities. Significance of high efficiencies is obvious. Maximum flue gas capacities are also of considerable significance since heating rates can be brought to an optimum only when the gas rate supplied is the maximum consistent with high efficiency and complete combusion. These factors of efficiency and heating rates have assumed considerable importance in recent years due to the rapid advancement in use of electric immersion tubes especially for small sizes.

While this competition has been keenly felt in all applications regardless of size and type of medium being heated, the particular field which seems most troublesome is that involving relatively small heating loads, and where small-diameter electric tubes may be conveniently employed. Deep fat fryers are an example of this situation. With this type of appliance, heating surfaces of immersion tubes are inherently limited, and unless heat transfer rates can be increased without serious reduction of input rates, it may be advisable to sacrifice high efficiency. This needs studying. If high efficiencies are to be obtained, they should not be accomplished at the expense of a decrease in rate of heating, since slow speed is often more objectionable from a competitive viewpoint than low thermal efficiencies. While it might be thought that it will be necessary to reduce efficiency for the sake of heating capacity, or vice versa, there is no fundamental reason why immersion heating, even in small applications, cannot, through intensive research effort, be developed to a point where a fine competitive position is enjoyed in respect to both operating cost and heating capacity.

Gas-burning capacities of any given tube or coil system are in part functions of burner design, placement of burner in respect to the tube or coil, and external stack effect induced. As a result of research work conducted at the Association's Laboratories during preparation of American Standard Approval Requirements for Deep Fat Fryers, it was found that burner design placement and external stack effect have a very considerable bearing on resultant thermal efficiencies as well as heating capacities. In one instance, enlargement of port area on an atmospheric type burner increased thermal efficiency by approximately 15% and correspondingly decreased the time of preheating. Other data obtained showed the appreciable and beneficial effect of optimum burner location. Deep fat fryers, particularly counter types, represent an extreme case, inasmuch as the length of heating tube is inherently limited. The problem of burning gas completely in such a tube and effectively extracting a major portion of the heat liberated in a tube only a few inches in length can well be appreciated.

Satisfactory results in such applications are usually obtained by use of flue baffles. While the function of a flue baffle can be simply described as a device for inducing maximum turbulence of the flue gas stream and a maximum radiating effect with a minimum restriction to flue gas flow the accurate obtainment of optimum performance from a baffle cannot now be predicted on the basis of available data.

In many applications the flue baffling can also serve an important function in leveling out heat distribution throughout the medium heated. This characteristic of immersion heating is extremely important since with cooking oils, as well as soft metals, the processes require that the average temperature of the liquid approach that at which deterioration or corrosive effect on the confining walls becomes serious. Due to the low viscosity of such mediums, it is readily possible to obtain conditions where local overheating occurs, and this can only be overcome by proper tube and baffle design, together with burner location which will provide reasonably uniform temperatures along the tube surface exposed to the medium being heated.

It seems important to point out that the scope of the new research program does not include a study of such factors as tube material and its relation to life expectancy under field conditions, or of insulation of confining walls, or design of vats for best production facilities, etc. However, it is felt that on combustion and heat transfer aspects of immersion heating the project will be complete and will provide, for the first time, fundamental data of a handbook nature which can be used in solving existing problems, and in pointing the way for improvement of utilization efficiencies and enlargement of heating capacities. This Industrial Gas Research project will also stimulate and encourage development of improved equipment by manufacturers and increase interest in immersion heating on the part of the entire gas industry.

## MASTER WORKING OUTLINE

### Project No. 47

### RESEARCH IN GAS IMMERSION HEATER DESIGN AND OPERATION

**Part I. Atmospheric Type Immersion Burners**

Sec. A. Examination and Test of Representative Types of Contemporary Equipment.

1. Combustion—All Test Gases
2. Burner and Pilot Operating Characteristics
3. Study of Factors Affecting Efficiency and Rate of Heat Transfer per Sq.Ft. of Coil Area
4. Noise of Operation

Sec. B. Effect on Items 1, 2, 3 and 4 of

Sec. A of:

1. Various Stack Heights
2. Various Designs, Lengths, and Diameters of Coil
3. Study of Value of Baffles

**Part II. Forced Draft Type Immersion Burners**

Sec. A. (Follow Part I, Sec. A)

Sec. B. Effect on Items 1, 2, 3 and 4 of Sec. A of:

1. Various Air-Gas Mixtures
2. Various Back Pressures
3. Various Air Pressures
4. Design and Location of Restrictions To Attain Back Pressure
   a. At coil outlet
   b. Small diameter coils without restrictors
   c. Elbows and bends in coil assembly
   d. Baffles

Sec. C. Noise of Operation

1. Effect of Burner Design
2. Effect of Operating Pressures
3. Effect of Coil Design
4. Study of Method for Reduction or Elimination of Noise
5. Study of Other Factors Affecting Noise Level

Sec. D. Problems Relating to Ignition

1. Effect of Automatic Pilot Design and Location Under Back Pressure or Updraft Conditions
2. Effect of "On" and "Off" Thermostatic Action Under Back Pressure or Updraft Conditions

**Part III. Induced Draft Type Immersion Burners**

Sec. A. (Follow Part I, Sec. A).

Sec. B. Effect on Items 1, 2, 3, and 4 of Sec. A of:

1. Varying Amounts of Secondary Air
2. Various Combustion Chamber Pressures
3. Designs, Lengths, and Diameter of Coils
4. Study of Value of Baffles

Sec. C. (Follow Part I, Sec. C).

# Subcommittee To Handle Emergency Appliance Requirements

*Lyle C. Harvey*

DEMANDS resulting from the war production program and ensuing difficulties in obtaining materials and supplies have been responsible for many requests for modification or suspension of certain existing approval requirements under conditions now prevailing. The Approval Requirements Committee of the American Gas Association, headed by C. H. Waring, superintendent, Kansas City Gas Company, after full consideration agreed on the need for establishing provisions for prompt handling of such problems. It was decided that a special subcommittee should be appointed to which would be delegated the power to act on matters involving modifications or compromises in current requirements, not affecting safety, that would facilitate war time production.

Headed by Lyle C. Harvey, president, The Bryant Heater Company, this group is known as the Special Subcommittee on Emergency Modification of Requirements. Its size was purposely limited to facilitate holding of meetings and handling of problems requiring immediate decision. It consists of 2 manufacturers and 2 utility company representatives together with the secretary of the Approval Requirements Committee. In addition, the chairman of the Working Committee on Housing and Realty Projects of the American Gas Association is an ex-officio member.

Accomplishments of this Special Subcommittee in the brief period of its existence bear witness to the foresight of the Approval Requirements Committee in anticipating the need for its services. In addition to prompt handling of several requests for emergency changes in requirements for various kinds of appliances, this group has also taken the initiative in the preparation of war emergency requirements for gas ranges, requested by the War Production Board. The American Gas Association has been highly commended for its cooperation through the services of this committee by the board. War emergency requirements for water heaters have also been handled in a similar manner.

# Australia Speaking

ANY gas industry men who get to Australia in the course of the war are assured of a hearty and cordial welcome, judging from a recent letter Wing Commander A. E. Chadwick, R.A.A.F. sent to R. M. Conner, director of the A. G. A. Testing Laboratories. Writing from Melbourne, Commander Chadwick asked for an opportunity to repay the hospitality shown him during a visit to the Laboratories in 1939. He stated further:

"Our air force has been fighting wherever there has been any, and now asks only for enough equipment to have something like a fair go at the Japs. Believe me, that will be a pleasure."

In reply, Mr. Conner pointed out that some 15 of the Laboratories' employees are now in the armed forces and probably some of them were in Australia but that definite word had not yet been received to that effect. He thanked the Commander and told him of our wholehearted efforts to "deliver the goods" to Australia.

SPEAKING OF SLOGANS

"There is no longer such a thing as junk."
—*Leon Henderson.*

## WAR RISK INSURANCE PRACTICES

(Continued from page 189)

striking employees, civil commotion, explosion originating on or off the premises of the assured excepting explosion originating in steam boilers, engines, and machinery, but excluding loss caused directly or indirectly by bombardment, war, insurrection or invasion, whether war is actually declared or not. The riot and civil commotion policy does not cover loss caused by a strike unless such loss is the result of mob violence or of a riot growing out of the strike or unless the strikers occupy the premises. It does not cover acts of malicious mischief or vandalism, or loss due to malicious intent of any kind, other than during riot, civil commotion or sit-down strikes.

**Riot and Civil Commotion Including Malicious Mischief and Vandalism**

The coverage under this form of insurance is the same as for the preceding item excepting that there is attached an endorsement extending the coverage to include vandalism and malicious mischief, meaning the willful or malicious physical injury to or destruction of the insured property. It should be noted that while the term "sabotage" is often used in connection with the vandalism and malicious mischief endorsement, strictly speaking sabotage may include some acts not covered by the malicious damage form.

**EXHIBIT B—GEOGRAPHICAL CLASSIFICATION OF STATES**

**Atlantic Seaboard States**
Connecticut, Delaware, Florida, Georgia, Maryland, Maine, Massachusetts, North Carolina, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia, Washington, D. C.

**South Central States**
Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas.

**North Central States**
Indiana, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

**Plateau States**
Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming.

**Pacific Coast States**
California, Oregon, Washington.

**Canada**
All Territories.

## Utility Advertising Samples Wanted

A DISPLAY of representative utility advertising which tells the story, "here's how they've done it since Pearl Harbor," is being prepared for the convention of the Public Utilities Advertising Association, June 22-23, in New York.

All gas companies are urged to send samples of their advertising since December 7 to Charles W. Person, American Gas Association, 420 Lexington Ave., New York, N. Y., for the exhibit. Deadline for receipt of material is June 15. Clear proofs are preferred but tear sheets and clippings are acceptable. Eight-by-ten glossy photos of poster and window advertising will be welcomed.

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### RADIANT GAS BURNERS

(Continued from page 181)

will employ 1500 individual radiant heat sources in the sidewalls compensating for tremendous variations in metal contour and section. Temperature tolerances are unbelievably small.

It is important to realize that multiple-source radiant heat can compensate for many temperature-time troubles of heat treatment. With older firing methods, it was customary to give the same treatment to both the heavy and the light sections of the same piece by designing for the heavy sections—and letting the light sections "soak" at temperature until the heavy sections are ready for the next step. If "time-at-heat" is a factor (say, in grain-growth) heavy and light sections will not be metallurgically identical. But with multiple-source radiant firing, heat can be "packed" into the heavy sections faster, simply by the location and adjustment of burners. Heavy and light sections can then both experience identical time-temperature cycles.

The completeness of combustion achieved with radiant firing, as well as the blast-free nature of gas flow in furnaces thus heated, are convincingly demonstrated by the facts that fine ceramic glazes are being direct fired, and that copper, nickel and ferrous alloys (not zinc-bearing or sensitive to the moisture resulting from combustion) are being bright annealed without muffles or special atmospheres.

The reflection of radiant heat from the work must be watched. Highly successful radiant drying of printing inks at high speeds in web presses was abandoned to specially engineered rib-

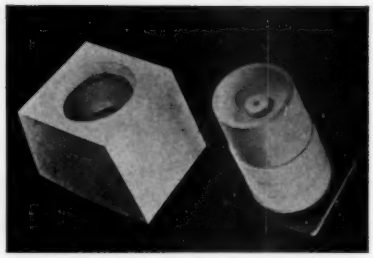

*Figure 3. One of many Selas direct radiant gas burner designs with a tapered furnace block such as is used in firing bells and circular units. Note 3 "expanders" between cup-body and shell-plate—which can be made to fit any wall thickness. All-ceramic constructions eliminate all metal between firing chamber and furnace shell*

bon combustion when four-colors rather than black-and-white were printed, as black areas would burn before the yellow ones were dry. In a furnace baking fluorescent coating inside tubular lamp bulbs by radiant heat transmission through the transparent tube wall, the temperature seemed to rise when cold work entered the furnace. This effect was due to radiant heat reflection from the glass. Shielding the thermocouples gave true temperature readings. The temperature control by roof firing over an area 7 feet square is shown by the use of a baking temperature within 10° F. of the glass softening temperature, although the problem is complicated by jets along the sides of the chamber throwing cold air into the ends of the traveling tubes. In the metal field, bright metals will not heat by radiant firing as rapidly as dull, nor will white synthetic finishes (as infra-red lamp users have found) cure as rapidly as black. The convected heat component of direct radiant gas firing minimizes the effect, but does not eliminate it.

Demonstrations of the higher rates of heat transfer and greater thermal efficiencies of direct radiant gas-fired units are legion. The "radiant head" effect, is one influence. Another is the fact that with radiant heat, less heat is released in the form of hot furnace gases, exhaust gas temperatures are lower, and less heat goes "up the flue." Consequently, 72-foot cast-tank-turret furnaces show over-all thermal efficiencies of 58%, despite opening the door to let the huge work in once every hour. In continuously open-flame-annealing the end-cut of 2-inch armor plate (hardened by rapid heat conduction into the cold stock after the cutting torch passes by), one radiant cup burner did the anneal with exactly half the gas consumption of an equivalent bank of small non-radiant flames carefully manipulated for optimum heating by every device conceivable *except* developing radiant energy. Another example—copper is bright annealed at 60 ft. per minute between two radiant banks only 6 feet long.

If these records of results obtained with direct radiant gas firing, can help you in your field, we have accomplished our purpose. Tomorrow we expect to be able to report more—from research, design and practical-application viewpoints—for our five years and 40,000 burners have, we firmly believe, only introduced us to fuel-fired radiant heating. Direct radiant heat, as a tool of industrial processing, is still an infant.

## Personnel Service

### SERVICES OFFERED

**Engineer** and **Attorney,** married; E.E., LL.B., Ph.D. in valuation and industrial engineering, 11 years design and construction experience—Utilities and boulder power plant; 4½ years valuation and cost engineering—Public Service Commission; legal experience—real estate, titles, exhibits, rates; Professional Engineer; Member of N. Y. Bar; desires engineering and legal position. (37) **1440.**

Professional **Gas Engineer** qualified by training and many years experience to render satisfactory service in every branch of the Gas Industry, Manufactured and Natural Gas, economical operation, supervision and construction. Thoroughly familiar with preparing and appraising inventories, with original and reproducton cost work, depreciation studies. Examination, Rate studies. **1441.**

**Gas Engineer** and **Executive** desires connection with gas utility or with consulting engineers. Thirty years experience in management, operation and construction, manufactured and natural gas. Also eight years with consulting engineers on valuations, depreciation and special studies of large gas and electric utilities. Services available April 1st. **1442.**

**Salesman** with A1 reference and sales ability. Experience in selling gas ranges for 22 years, calling on better dealer and department store. Desires a connection with Metropolitan New York or utility company's sales department. Former position terminated on account of war. **1443.**

**Manager,** college degree, with more than twenty years' experience in management of manufactured gas properties, both coal and water gas. Familiar with operation in Spanish country. Not particular about location. **1444.**

Engineer, M.E., 15 years' utility experience in all branches of utilization and sales of manufacturing gas, particularly **Industrial Engineering** and **Sales.** Also experience in air conditioning, industrial application of electric heating and private power plant competition. Desire position with a utility, manufacturer or consultant. **1445.**

### POSITIONS OPEN

**Industrial Gas engineers** for nationally known industrial furnace organization. Technical education preferred. Minimum of one or two years' industrial experience required. Remuneration on salary basis. **0366.**

# 1941-1942 Advisory Council

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